

INDIAN IVORIES

(A survey of Indian ivory and bone carvings from
the earliest to the modern times)

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I cannot forget the hospitality I enjoyed in the course of my several trips to Lucknow at my friends, Dr. K.K. Thaplyal's and Sri Suresh Sharma's places. My sincere thanks to them and their generous wives. Dr. Thaplyal read and made some valuable suggestions in the thesis.

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I do not know what to offer to my wife Urmila who bore the brunt of my late night and early morning sittings patiently and provided all the amenities to complete this work. My mother, Smt. Shanti Devi, was the source of constant inspiration and younger brother, Pramod, was also of help. My profound regards to her, and *ashirāda* to him.

Proprietors of Agam Prakashan deserve special thanks for bringing out the book so nicely and in such a short time.

In the end I must confess that my quest for the mythical weapon made from Dadhiei's bones is still on and this book on 'Ivory and bone carvings' is just a beginning in that direction. Suggestions from scholars for future researches are most welcome.

National Museum
New Delhi
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Vinod Prakash Dwivedi

Introduction

Human inventiveness finds fulfilment in pursuits of primarily utilitarian value ; but craving for aesthetic expression combines beauty with utility in whatever he seeks to create. Association is the essence of real relationships ; it endears articles of everyday use to their owners, who try to embellish them with the aid of creative art. The warrior's love of his weapon is revealed in the ornamental sword blade and its handle fondly caressed by his resolute hand ; the lady's tenderness is reflected in her delicately carved ivory comb, hair-pin or mirror handle. All these are works of art, true and fine.

If a female figure carved in stone is labelled as an example of 'fine art', a similar specimen in bone or ivory has every right to be considered similarly, and should not be treated lightly as an illustration of 'minor art', simply because of its medium and small size. The ivory mirror handle dug out from the ruins of Pompeii (Pls. 41 and 42) can compete in quality with the best creations of Indian art in the stone medium. Similarly, the Kanoria collection Buddha (Pls. 81 and 82) is a marvel of Kashmir artists' skill in miniature ivory carving. His oval face with closed eyes reflects the depth of his reverie ; and even the minutest detail, such as the *vajra* of Indra, has been executed with the greatest care. Again, during the Pala Period, when imparting metallic finish to stone sculptures became the order of the day, the Pala ivory-carvers did not lag behind, as evidenced by the small ivory statue recently acquired by the Prince of Wales Museum, Bombay (Pls. 98 and 99). The present dissertation, therefore, is a modest though determined attempt at vindicating the value of Indian "bone and ivory carvings" as objects of art, and at rescuing many an unknown and unsung masterpiece from the limbo of forgotten things. Whereas there have been dozens of publications on sculptures and paintings in the recent past, there has practically been none on ivory or bone carvings, or, for that matter, on any one of the so called 'minor arts'. An attempt to fill this lacuna of Indian art history has been made in this thesis.

The present monograph is an enlarged and revised version of the Ph.D. thesis approved by the Lucknow University. Originally limited to eight chapters only (upto c. 1200 A.D.), two more chapters have been added, one on Mediaeval ivories and another on Modern ivories, to make it more comprehensive and useful. Material for these two chapters has been gathered during the course of my extensive travels to various museums in the country as well as abroad. Travel accounts, biographies of the Mediaeval rulers, exhibition catalogues, etc., have also been consulted.

In 1965 a seminar on the 'Decorative Arts of India' was held at the Prince of Wales Museum, Bombay, wherein discussions on ivory carvings also took place. Dr. Moti Chandra, the distinguished Director of the Museum, exhorted us to work on subjects like bone, ivory, wood and other such carvings, which were neglected by earlier research scholars. His pioneering article on 'Ancient Indian Ivories' in the Bulletin of that museum further inspired me to undertake work on this subject. I cannot find words to express my gratitude to Dr. Moti Chandra for the encouragement he always gave me to tackle this topic.

The reports of archaeological excavations and explorations have formed the bulk of the source-material. While such reports deal extensively with stone or pottery findings, they merely enumerate the bone and ivory finds. Only a few reports illustrate them. Efforts were made to see the actual specimens as far as possible (for instance a trip to Paris to see the Begram ivories), and to get these re-photographed when it was so needed. If it was not possible to go places, owing to the problems of time, distance and money, information and photographs were obtained through correspondence. In other cases museum catalogues and similar scholarly publications helped in collecting material. Literary and epigraphical sources have been tapped as exhaustively as possible, and an effort has been made to correlate them with excavated objects.

Epigraphs on stone and copper-plates provide us with some interesting information about ivory carvings. One of these tells us about export of ivory in the early 6th century B.C.; another about a guild of ivory carvers; a third about the use of ivory in the decoration of palanquins; a fourth about the ivory workers attached to a temple; while yet another talks of the rights of tusk collection from forestland. Similarly most of the ancient religious and literary works, including the Vedic texts and the Epics, mention the use of ivory for one purpose or another. We learn of ivory's use in the Vedic times for dice. The Epics mention ivory being used for inlay work, combs, umbrellas and other utilitarian purposes. Later on, we find ivory being used for boxes, collyrium rods, pendants and charms, rings, seals and other such objects. Literary data thus supplement and in many cases support the archaeological evidence. While making comparative evaluations, especially for determining provenance, contemporary bone and ivory carvings from outside India, as well as Indian sculptures in other media—stone, bronze and clay—have been taken into account in order to obtain a comprehensive picture of the time.

Bone played an important part in the social activity of man both before and after the advent of metal. Out of it he fashioned tools, weapons, as well as objects of a purely decorative nature. Its easy availability made it popular for technical and domestic purposes. An attempt has been made here to show the technical advancement of man as reflected in his bone tools and carvings.

Ivory's soft shine attracted man since the dawn of civilization. Its extensive use by the Harappans shows its popularity in India from at least the third millennium B.C. Its use, ivory objects being quite costly, hints at the affluence of a society. The richer the people, the greater the use of ivory. Its occurrence in quantity in an excavation shows the urban nature of the site. Ivory carvings, thus throw light on man's technical achievements, and also acquaint us with his social and economic life. We have made an attempt to analyse the Indian ivory carvings in the proper context of man's social, economic and artistic activities.

Abbreviations

A.A.	<i>Arts Asiatiques</i> , annuels du Musée Guimet, Paris.
A.B.I.A.	<i>Annual Bibliography of Indian Archaeology</i> , Leyden.
A.J.	<i>Ancient India</i> , Bulletin of the Archaeological Survey of India. New Delhi.
Anthropos	<i>Anthropos</i> . International review of Ethnology and linguistics, St. Gabriel-Modling, near Vienna.
A.R.A.S.I.	<i>Annual Reports, Archaeological Survey of India</i> , Calcutta.
A.S.M.	<i>Archaeological Survey of India Memoirs</i> .
Beihoff	<i>Ivory sculpture through the ages</i> , By N.J. Beihoff, Milwaukee (U.S.A), 1961.
B.M.Q.	<i>British Museum Quarterly</i> , London.
Cen.	Century
C.I.I.	<i>Corpus Inscriptionum Indicarum</i> .
Deraniyagala	<i>Some extinct elephants, their relatives and the two living species</i> , By P.E.P. Deraniyagala, Colombo, 1955.
E.I.	<i>Epigraphia Indica</i> . Bulletin of the Epigraphy branch of the Archaeological Survey of India.
E.W.	<i>East and West</i> , Quarterly published by the Istituto Italiano Per IL Medio Ed Estremo Oriente, Rome.
E.W.A.	<i>Encyclopaedia of World art</i> , New York, London, Toronto, 1959.
Harappa	<i>Excavations at Harappa</i> , By M.S. Vats (2 vols.), Calcutta, 1940.
I.A.R.	<i>Indian Archaeology—a review</i> , New Delhi.
J.A.O.S.	<i>Journal of the American Oriental Society</i> .
Jatakas	<i>Jatakas</i> , 6 vols., Cambridge, 1895.
J.I.S.O.A.	<i>Journal of the Indian Society of Oriental Art</i> , Calcutta.
J.N.S.I.	<i>Journal of the Numismatic Society of India</i> , Varanasi.
J.U.P.H.S.	<i>Journal of the Uttar Pradesh Historical Society</i> , Lucknow.
Mackay	<i>Further excavations at Mohenjo-daro</i> , By E. Mackay (2 vols.), Calcutta. 1930.
Maskell	<i>Ivories</i> , By A. Maskell, Tokyo, 1966.
Mohenjo-daro	<i>Mohenjo-daro and the Indus Civilization</i> , By John Marshall (3 vols.), London, 1931.
Moti Chandra	Moti Chandra. 'Ancient Indian Ivories', <i>Bulletin of the Prince of Wales Museum</i> , Vol. 6, Bombay. 1957—59.
O.A.	<i>Oriental Art</i> , Quarterly publication devoted to all forms of Oriental Art, Oxford.
Rupam	<i>Rupam</i> , a Journal of Oriental art, chiefly Indian, Calcutta.
Taxila	<i>Taxila</i> , By J. Marshall (3 vols.), London, 1951.
Zimmer	<i>The Art of Indian Asia</i> , By H. Zimmer (2 vols.), New York. 1955.

Transliteration

अ	a	ठ	th
आ	ā	ड	ḍ
इ	i	ढ	dh
ई	ī	ण	n
उ	u	त	t
ऊ	ū	थ	th
ऋ	r̥	द	d
ॠ	ṛ	ध	dh
ए	e	न	n
ऐ	ai	प	p
ओ	o	फ	ph
औ	au	ब	b
anusvāra	m̐	भ	bh
visarga	h	म	m
क	k	य	y
ख	kh	र	r
ग	g	ल	l
घ	gh	व	v
ङ	ṅ	श	ś
च	c	ष	ṣ
छ	ch	स	s
ज	j	ह	h
झ	jh	ळ	ḷṣ
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Material And Technique

THE stainless purity of white ivory and its comparative scarcity combined to make it a distinctive ornament of royal dignity since time immemorial. Literature¹ and archaeology alike attest the richness of ivory workmanship in ancient India. The excavations at Mohenjo-daro,² Harappa³ and many other sites have brought to light numerous ivory objects. Two elephant tusks found at Mohenjo-daro⁴ along with nine skeletons, "buried at the same time",⁵ represent according to Mackay, the remains of a family vainly trying to escape with their precious belongings from a city in the throes of an invasion.⁶ The fact that the arm-bones of burial were almost touching one of the tusks poignantly points to the great value of ivory at the time.⁷ Even in its natural condition the unworked tusk formed part of offerings in temples. Traditions in other ancient civilizations may be cited in corroboration. The *Bible* states that king David sang of the "palace of ivory" and that Solomon had a "throne of ivory".⁸ The Romans went to the extent of making a cult of it by restricting its use to the members of the royal family only.⁹

IVORY

Definition

The term "ivory", though loosely applied to the tooth structure of the elephant, walrus, hippopotamus, whale and some other animals, is, strictly speaking, confined to the "dentine present only in the tusks of the elephant"¹⁰ (Pl. I). In transverse sections it shows lines of different colours proceeding in the arc of a circle.¹¹ The hard white substance composing the tusks of the elephant is quite dense, and the pores are close, compact and filled with a gelatinous solution,¹² which makes it easily amenable to the carver's skill. The solution contributes to the beautiful polish given to the objects produced from ivory. Being fibrous, it cannot also be easily torn.

¹ *Rāmāyana*, *Ayodhyā Kānda*, 69, 12 ; *Sundara Kānda*, 10, 2 ; *Mahābhārata*, II, 47, 14 ; and many more (see Chapter II).

² John Marshall, *Mohenjo-daro and the Indus Civilization*, II, p. 562.

³ M. S. Vats, *Excavations at Harappa*, I, p. 459.

⁴ E. Mackay, *Further Excavations at Mohenjo-daro*, I, p. 117.

⁵ *Ibid.*

⁶ Obviously in such panic, as suggested here, only precious

things would be taken and the two tusks must have formed valuable treasures to have been taken along.

⁷ Mackay, p. 117.

⁸ N. J. Beihoff, *Ivory Sculpture through the Ages*, p. 17.

⁹ *Ibid.*

¹⁰ *The Encyclopaedia Americana*, 15, p. 563.

¹¹ Prof. Richard Owen in T. K. Penniman, (Ed), *Pictures of Ivory and other Animal Teeth, Bone and Antler*, p. 13.

¹² Maskell calls this "oily or waxy solution" (*Ivories*, p. 23).

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Composition

The composition of ivory is essentially equivalent to that hard and bony substance of which most teeth are formed. The strength of any tooth depends upon the compactness of the tubes or blood passages. In elephant ivory these tubes, starting from the pulp cavity and radiating in all directions, are placed very close together. In fact its fine grain and almost perfect elasticity is derived from the closeness of these tubes. The tusks of the elephant are built up layer by layer in their growth, and when the ivory is very old, the component parts tend to separate into conic sections (Pl. 2).

As a chemical substance, ivory can be placed between bone and horn. Chemical analysis shows that it contains much more phosphate of magnesia and much less carbonate of lime than do bones or dentine.¹

Kinds of Ivory

Before discussing the kinds of ivory, it may be worthwhile to mention that not every elephant has tusks.² For instance, in Ceylon the animals are generally tuskless while in India the male elephant has conspicuous tusks, though the female generally, lacks them. The Sumatra elephants, too, are like their Indian counterparts.³

Green Ivory

"Green ivory" is the term used for tusks cut from a freshly killed or recently dead animal, or from a living elephant. Such ivory was preferred in ancient India.⁴ It may be pointed out that the cutting of its tusks does not necessarily entail an elephant's death.⁵ A good part of the total ivory supply comes from the animals which die a natural death; and if the ivory is picked up after a period of natural exposure, it is called "dead ivory". When freshly cut,⁶ the ivory should have a mellow, warm, transparent tint,⁷ as if soaked in oil, with very little appearance of grain or fibre. The waxy solution dries up considerably by exposure.

Dead Ivory

As explained above, "Dead Ivory" means ivory that has been found on the ground, after a period of natural exposure or has been stored for a considerable time, until it has lost the oil or gelatine that gives elasticity to green ivory. Quite often the African ivory belongs to this category.⁸

Tusks of the Mammoth

Another kind of ivory is the tusk of the mammoth⁹ abundantly found frozen in Siberia. Due to favourable climatic conditions the ivory has been preserved in a perfect state. "The store appears to be as inexhaustible as a coal-field."¹⁰ The mammoth tusks are longer and more slender than those of the African elephants. Their curvature is also quite extensive. This source of ivory came to light in the beginning of the eighteenth century.

¹ Beihoff, p. 17.

² The term used for such tuskless elephants is "*Makunā*" (India and Ceylon). The term used for tuskers is "*Dantelā*". P.E.P. Deraniyagala, *Some Extinct Elephants, their Relatives and the Two Living Species*, p. 39.

³ *Ibid.*

⁴ *The Jātaka*, I, No. 72—*Silavanāga Jātaka*, the Banaras forester, when asked the ivory-worker, was told; "A living elephant's tusk is worth a great deal more than a dead one."

⁵ *Ibid.* The same *Jātaka* tells us that the elephant Bodhisattva twice offered his tusks to be cut by the forester.

⁶ *Bṛhat Samhitā* gives a detailed account of the cutting of tusk. The seventh *śloka* of its chapter 94 reads: "*Suklah*

samāh Sugandhīh Snigdhasācha Śubhavahe bhavacedah," (The cutting of tusk being white, even, of good smell and glossy, bestows prosperity).

⁷ Maskell, p. 24

⁸ *Encyclopaedia Britannica*, 12, p. 835.

⁹ Mammoth or "*Elephas primigenius*" was a very large kind of elephant with hairy skin and long curved tusks. It is extinct now.

¹⁰ Maskell, p. 28. When turned in light, mammoth ivory glows gently rather than flashes. This is due to its being far older than other specimens, and also more absorbent and less oily after losing organic matter in the course of many centuries.

Teeth of the Hippopotamus

The teeth of the hippopotamus are another source of ivory. These are denser, and have a closer grain than elephant ivory and are the hardest of all teeth used as ivory. The only limitation in this kind of ivory is that it can be used for small work alone because of its size and does not have the pattern of crossing lines. In colour it is pure white.

Walrus Ivory

The source of walrus ivory are the long tusks hanging perpendicularly downwards from the upper jaw of the sea-cow. This large sea-animal resembles a seal and is found in the arctic regions. The tusks of the walrus are much larger than those of the hippopotamus, often exceeding 2 ft. in length. They are generally oval in section. A newly-taken tusk has a white outer layer which gradually turns yellow with age and exposure. The core substance is darker than that at the exterior surface, and looks as though it were composed of many small round crystals (Pl. 3). When a thin section of a walrus tusk is examined against the light, the core appears translucent, in contrast to the outer section which is opaque. However, the walrus tusk does not have the fine intersecting lines of elephant ivory.¹ On the other hand, moderately deep carving brings out the handsome marbled effect of the interior which is very distinctive and easily recognised.

Beach Ivory

A sub-variety of walrus ivory is called "beach ivory". It is the name given by Alaskans to the fossil tusks of walrus. It is often beautifully mottled in "shades of violet and brown".²

Narwhal Ivory

The narwhal looks like the horned sea-monster, half-whale and half dolphin, and is found in the arctic waters. The male narwhal grows a tusk of pure ivory about 8 ft. long and Eskimos often slaughter them for this horn.³

Dugong Ivory

A local variety of ivory called "dugong ivory" is used for carvings in Java, Sumatra and as far as the Philippines. It is derived from the tusks of the sea-cow.⁴ This kind of ivory principally comes from the female sea-cow.⁵ which outwardly does not appear to bear tusks. But inside the skull are huge tusks, sometimes twice as long as those of the male, much larger in diameter than that of the male and almost entirely solid. As against this, the tusks of the male sea-cow have a deep basal cavity and prominent surface scoring, both of which reduce the amount of usable ivory.

Hornbill Ivory

Another out-of-the-ordinary substance used by Indonesian craftsmen is known as "hornbill ivory". This is a dense, carvable substance found in the solid casque of the helmeted hornbill⁶, growing above the upper mandible.⁷ Structurally, it is neither ivory nor horn nor bone, yet it has locally been called ivory for many centuries. It is softer than the real ivory and is different in colour, which is soft creamy yellow, becoming somewhat reddish at the top and sides. It is the core material that has generally been used for fine carvings. No other country, except Indonesia, uses this material.

¹ The Muslims valued the walrus ivory highly, specially for sword and dagger hilts. In India, its use gained popularity in the Mughal period, and it was priced more than elephant ivory. The Eskimos work mainly in walrus ivory on account of its easy availability.

² These tusks are found on the beach and hence the name "beach ivory".

³ The Unicorn is alive and well and living in Coney Island.

Life, 27 October 1969, p. 37.

⁴ Scientific term used for this cow is "*Halicornes dugong*", *E.W.A.*, VIII, p. 760.

⁵ *Ibid.*

⁶ Scientific name: "*Phinoplax viel*". It is a large bird having a large bill with a horn or horny lump on it, *E.W.A.*, VIII, p. 760.

⁷ *Ibid.*

Whale's Teeth Ivory

Yet another type of ivory which came into use rather late, is the ivory from whale's teeth.¹ It can easily be recognized by the short, stubby shape of the whale teeth, their broadly rounded ends, and their conical base cavities. It can be identified by the thick outer layer of cement and the interior of dentine, both marked with fine, concentric lines. It can, however, provide material for small objects only.

Besides these kinds mentioned above the quality of ivory differs from country to country and every ivory-using country has some traditional uses for its ivory.

Asian and African Ivory

Asia and Africa are the two main ivory-producing continents, but their products differ considerably owing to climatic and geographical factors. Scientists believe that the origins of both the Asian and African living elephants are, geologically speaking, relatively recent, and it is debatable whether they are generically separate.² Asian ivory is whiter than African, less close in texture, not so hard under the tools, and not susceptible of so fine a polish. It is chalky white when green (though it yellows quickly), and of coarser grain. It was preferred in Imperial Rome,³ especially for official diptych⁴ (two-lafed writing tablets). But each sub-variety of Asian ivory has its own characteristics. However, as a rule, the nearer the equator, the larger, finer and more expensive the ivory.⁵

The tusks from Ceylon have a pale rosy colour and only six per cent of the elephant population of Ceylon, or 11 per cent of the males, carry them.⁶ The average weight of a large Ceylon pair of tusks is about 80 pounds and the length about 5 ft. 6 in. The record weight is 115 lb., and the length 7 ft. 2 in.⁷ It is recorded in the Chinese Chronicles that carvers of that country preferred Ceylonese ivory, owing to its colour and texture. The *Encyclopaedia of World Art* tells us that "the Singhalese used ivory from the native elephant whose tusks are exceedingly small but provide ivory of fine quality and good texture."

Ivory from Siam (Thailand) resembles the Ceylonese variety. Indian ivory, though whiter than the above-mentioned varieties, is supposed to be inferior on account of its softness.⁸ However among the Indian varieties, ivory from Assam is the best.⁹ Speaking of the Asian elephants, Dr. Deraniyagala¹⁰ says that the size of the elephant diminishes towards the east. The largest animals are those of India specially from Assam and Ceylon. The Burmese elephants are smaller, the Malayan even more so; and the smallest breed appears to be the Bornean.

The African ivory, too, has several sub-kinds like its Asian counterparts. The best variety comes from nearer the equator.¹¹ Pangain on the east coast of Africa produces fine-grain ivory, which is hard and heavy and does not bleach with time. Cape ivory is softer, sometimes yellowish, sometimes whitish. That of Senegal and Abyssinia is very similar, but less valuable. Ivory from Zanzibar is of a slightly green tint, which generally does not turn yellow.

Ivory from Wild and Tame Elephants

Yet another distinction in ivories can be made on the basis of their being produced from wild or tame elephants.¹² The quality of tusks even in the wild elephants depends on their region of habitation, swampy or hilly. The heavier and thicker tusks come from the forest area, and the

¹ E.W.A., VIII p. 262-63.

² Deraniyagala, p. 52.

³ Pliny the Elder, writing in the First century of our era, reported that because of the scarcity of true ivory, even the bones of elephants, cut into layers, were beginning to be used as a substitute owing to increasing demand, E.W.A., VIII, p. 758.

⁴ The *Encyclopaedia Americana*, 15, p. 563.

⁵ G. Watt, *The Commercial Product of India*, p. 697.

⁶ Deraniyagala, p. 43.

⁷ *Ibid.*

⁸ According to a Delhi ivory carver, Sri Bhagat Bhim Sen, ivory of Indian origin develops more cracks than the African ivory.

⁹ Assam was always famous for ivory-products. We find references in *Mahābhārata*, *Periplus of the Erythraean Sea*, etc.

¹⁰ Deraniyagala, p. 40.

¹¹ Maskell, p. 25.

¹² Bechhoff, p. 19.

long, thin ones usually from the savanna, between the deep forest and the desert.¹ This is also stated by Varāhamihira,² who advised one to "cut off a length (from the bottom) equal to twice the circumference of the tusk at the bottom and use the remainder for purposes of establishment. A little more of it will have to be cut off in the case of elephants haunting marshy places, and a little less in the case of those haunting mountainous tracts."³ The fact that different measurements have been suggested for cutting off the tusks of elephants of different regions shows that their tusks had varying rates of growth governed by their physical environment.

Similarly, the tusks of a domesticated elephant will differ in quality from those of a wild one. A little of the softness and brittleness in the tusks of the tame elephants is caused by sweets and salt administered to them in their food.⁴ It means that tusks of the domesticated elephants are inferior to those of the wild ones.

Hard and Soft Ivory

From the commercial point of view the main distinction made in the quality of ivory is between the hard and soft varieties. It is difficult to define these two terms, but generally speaking, the hard ivory is distinctly harder to cut with a saw or other tools; whereas the soft ivory contains more moisture and can be cut comparatively easily. Furthermore, hard ivory is brighter in colour, glossy and transparent. The main quality of the soft ivory is that it stands variations of climate and temperature better, and does not crack or chip so easily. Regarding the provenance of these two types of ivory, the *Encyclopaedia Britannica* states that if a vertical line is drawn across the centre of Africa, the west produces hard ivory while the east soft.⁵

It may, however, be mentioned here that these classifications of ivory are not water-tight, and it is quite possible that a particular type may have many of the qualities listed above. Further, there are two other varieties, which, strictly speaking, do not fall within the category of ivory, but are still listed as such by some scholars. These are vegetable ivory⁶ and fictile ivory.⁷ As none of the ivories discussed within the following pages belongs to the vegetable or fictile family, we need not go into details of these varieties.

TUSKS

Structure

A tusk is an elongated incisor equal to or longer than the distance from the eye to the gum of the tusk socket.⁸ It points upwards when an elephant opens his mouth, although a malformed tusk might point downwards. The size of the tusk is not determined by the age of the animal, although a tusk can approximately tell the age of the elephant by the layers of ivory which show rings. Each ring is approximately a centimetre (.3938 in.) in thickness and indicates from seven to eight years of the animal's life. As the tusk develops, dentine fills up the anterior end of the pulp cavity and the solid portion thus formed is pushed forward; the

¹ Beilhoff, p. 19.

² An astrologer of exceptional merit, Varahamihira flourished in the 6th century, and besides his own subject wrote on almost any and every thing, including ivory.

³ *Bṛhat-Saṃhitā*, Chapter, 79, *Sloka*, 20.

⁴ M. K. Devassy, *Selected Crafts of Kerala*, p. 138.

⁵ *Encyclopaedia Britannica*, 12, p. 235.

⁶ The plants yielding the vegetable ivory are similar to palms and are natives of South America. Botanists call them 'Phytelephos'. Their fruit, a nut of the size of a hen's egg, is used for the manufacture of buttons, umbrella-handles and other small objects. Maskell, p. 480.

⁷ *Fictile ivories* are imitations of original works. The process of production is very simple; ordinary gut-tapercha is heated and mixed with sufficient wax to prevent it hardening too rapidly on cooling. This preparation is then softened in nearly boiling water until it is about the consistency of well kneaded putty. After a thin coating of a weak solution of soft soap the original ivory is covered with this composition and a mould thus made. Thereafter, a cast is made in plaster of Paris which is then dipped in molten stearine to give it an ivory-like look. Maskell, p. 481.

⁸ Deraniyagala, p. 40.

pulp cavity also becomes relatively shorter in a middle aged elephant. The secondary dentine possesses a criss-cross pattern and is arranged in concentric layers and shows up in a fossil tusk¹ (Pl. 2).

Growth

The growth of the tusk depends on several factors, prominent among which is the regional factor. For instance, the adult African elephant has larger tusks than his Indian counterpart. An African tusk can be as long as 10 ft. and the record weight of a pair is 220 pounds.² In India an average tusk has a length of 7 ft. only.

Parts of a Tusk

A tusk has three parts, viz., (i) the hollow part, (ii) the central part³, and (iii) the point.⁴ The portion inside the mouth of the elephant which is filled with marrow, becomes hollow when the marrow is removed. In order to remove the marrow (which is sometimes filled up to the middle portion), the tusk is buried under the earth for some time. It is then taken out and washed with water. The "central part" and the "point" are solid (Pl. 4).

A light grey coloured bark covers a tusk just like a tree bark (Pl. 5). The bark portion is unsuitable for carving and is cut away with a chisel.

Shapes of Tusks

Shapes of the tusks vary and may be categorized as (i) Slender; (ii) Thick; (iii) Straight; (iv) Curved; (v) Short; and (vi) Elongated.

The thin tusks are generally due to the animal being young. The tusks of the young animals are slender and are commonly termed as "Cane tusks" by Sinhala "mahouts".⁵

It is generally believed that tusks are never shed. But the dissection of young animals has revealed that this view is erroneous.⁶ The milk tusk is fusiform, with feeble bifid apex. It is enamel-coated and possesses a long conical root that is hooked at its end. The permanent tusk rudiment is shorter and is a compressed cone with a feeble bifid apex and a wide open root. It is entirely made of dentine and its surface is fluted. The relatively short milk tooth of the tuskers is shed within six months. The tusk-elephant⁷ takes about a year to shed its milk tooth, which is relatively elongated when compared with the rudimentary permanent tusk.

BONE

In the economic activity of man in pre-metal times, together with stone, a remarkably important part was played by bone as a material for tools, weapons, ornaments and in the manufacture of objects of representational art. Bone as a special material created by natural life and easily used by men for technical and domestic purposes required no elaborate treatment and was employed after partial dressing or only slight alteration, or without any treatment at all.⁸ However, it is noteworthy that fresh bones, which are filled with marrow and blood, were not used for fabricating of artifacts because of its breaking in irregular way.⁹

¹ Mention may be made here of the elephant pearl (*gajamuktā*)—one of the costliest mythical gems. "Concentric layers of dentine deposited around foreign bodies entering the pulp cavity are termed elephant pearl." (Deraniyagala, p. 48).

² Beinhoff, p. 19.

³ On interviewing Sri Bhagat Bhim Sen, an ivory carver from Delhi, I was told that this portion is called "chatta" and is in great demand in India for making bangles.

⁴ Called "moli" by the ivory carvers of Delhi.

⁵ Deraniyagala, p. 47.

⁶ *Ibid.*

⁷ By tusk-elephant is meant the tuskless or "Makurā" variety. Tusks are much shorter than tusks and point downwards when the animal opens its mouth and are usually completely hidden under the tip. Only rarely they are visible.

⁸ S.A. Semenov, *Prehistoric Technology*, p. 15.

⁹ Lata Aditya Narain, *A Study in the Technique of Neolithic Bone Tool-making at Chirand and Their Probable Uses*, p. 2.

In the Palaeolithic Age, bone knives, shafts fashioned from horn, scrapers and planes of shell were abundant. Entire pre-historic period has been named after the dominant bone tools of these epochs¹. Sockets of bone joints served as containers for paints and greases. The *Jātakas* tell us that bones, particularly monkey's bones, were used frequently for children's necklaces.²

Bone is a hard substance forming the skeleton of the higher animals. In structure it is less fibrous but more brittle than ivory, and splinters easily. The tubes or blood passages of bone are larger and of a coarser variety. That is why the use of bone is restricted to the manufacture of awls, kohl-sticks or mirror handles. Figures in the round, made from bone, are hard to come by, and even those that have been found lack the characteristic finish of ivory. They invariably bear splinter marks running lengthwise through the statue.³

DIFFERENCE BETWEEN IVORY AND BONE

Oily Solution

The main difference between ivory and bone—which makes ivory more suitable for carving than bone—is that there is an oily or waxy solution in the pores of ivory. Also ivory is more fibrous than bone and therefore it cannot be easily torn.

Chemical Contents

The chemical analysis of ivory and bone shows that ivory contains more phosphate of magnesium, whereas a bone contains more carbonate of calcium or lime.⁴

Ivory can absorb water quite readily, and cracks, usually caused by drying, can be avoided by controlling the humidity in the area of its storage.⁵ It is not as brittle as bone.

Size and Use

Another distinction lies in their respective sizes and uses. Whereas a tusk, which is bigger in size, can be used for making big and round figures, bone's use is limited to the manufacture of smaller things only. In general, ivory was used for producing objects of decorative nature, such as statues, plaques and carved reliefs; while bones were used for making utilitarian objects such as arrow-heads, harpoons and collyrium rods, etc.

Finish

Lastly, the finish or shine which may be attained in ivory objects is more than that can be obtained in bone, because of the former's texture and oily contents.⁶

The Sūtras on the Uses of Ivory

Some scholars explain the paucity of early ivory carvings in terms of the religious sentiments of the Hindus and Buddhists.⁷ But the cutting of tusks does not mean the death of an elephant on that account, and thus the question of religious sentiments does not arise. Furthermore, statistics show that most of the ivory available in the market is obtained from animals already dead.⁸ There is no religious sanction against its use for making images, though there are practical difficulties in using ivory images for purposes of worship. Hindu ritual involves bathing of the icons, a practice which will damage

¹ J.E., Lips, *Origin of Things*, p. 120.

² *Ahimsavāda Jātaka* (No. 365), III, p. 137.

³ Clearly seen in the Ter bone figure, Cf., Moti Chandra, "An Ivory Figure from Ter," *Lalit Kala*, 8, p. 7.

⁴ Bethoff, p. 17.

⁵ A. E. Werner, in *The Conservation of Cultural Property*, p. 278.

⁶ On interviewing an ivory carver from Delhi I was told that one sure method of telling a bone from ivory was to rub it with one's thumb. The bone, having more

pores, would get dirty, whereas ivory would not.

⁷ George Watt, *The Indian Art at Delhi, 1903*, Chapter on ivory, p. 170. "When the religious prejudices and sentiments of the Hindus are borne in mind, no great surprise need be felt regarding the comparative insignificance of the available information (in the publications of the ancient) regarding the art industries that largely depend for their existence on the taking of animal life."

⁸ Maskell, pp. 25-27.

ivory. Moreover, ivory is fragile and cannot last as long as stone. "Almost all the 'dhruvaberas', that is, images set up permanently in the central shrines of Indian temples (Hindu, Buddhist or Jaina) happen to be made of stone."¹ Besides stone, other materials recommended in the 'āgamas' for the manufacture of images are wood, metals, earth, precious gems, and a combinations of two or more of the afore-said materials. Some authorities include "dental" or ivory also in the category of precious gems.² It is thus clear that the *sāstras* do not impose any restriction whatsoever on the use of ivory, and the paucity of ivory objects is more due to the perishability of the material than anything else.

Perishability of the Material

Despite many literary and epigraphical references,³ not many early ivory or bone carvings have survived. Compared with the profusion of other finds in archaeological excavations, the number of ivory and bone objects is insignificant. The reasons for the perishability of ivory and bone are given below.

Both ivory and bone are porous materials, so that they are easily stained, and they readily absorb salts if they were buried in a salty ground. Thus their state of preservation greatly depends upon the nature of the soil in which they are buried. Anisotropic⁴ as they are, both bone and ivory have fibres running in different directions, and for this reason they tend to warp when exposed to changes in relative humidity of the environment.

Yet another cause of perishability of this material is that the organic component, the so-called protein ossein,⁵ is decomposed by prolonged exposure to moist conditions. It is thus obvious that objects from a chalky soil may be brittle owing to the loss of the organic matrix, whereas objects from a salty soil may be in a poor condition owing to the absorption of soluble salts. And bone and ivory form a wet soil may tend to be soft.⁶

It may, however, also be mentioned here that time confers a natural patination of yellowish tone on bone and ivory which is in no way harmful to them.

USES OF IVORY AND BONE

Ivory

Uses, to which ivory has been put, are many, and changing with time. Its abundance in Africa made people use it as door-posts, fencing and stalls for cattle,⁷ and sometimes it is used only for buttons and cuff-links, owing to scarcity of the material and cost involved.⁸

It is interesting to note that even un-carved tusks have importance. For instance, tusks have been taken to symbolize fertility and procreation.⁹ In a relief from Nagarjunakonda, depicting the dream of Maya, a pair of voluted tusks lying near the couch of the slumbering queen represents the same.¹⁰

However, ivory is mainly used to make combs, hair pins, bangles and other ornaments, dice and chessmen, furniture and oddments, manuscript covers, seals, buttons, decoration pieces, boxes, etc.

Combs

Ivory combs seem to have been a favourite toilet requisite of ancient Indian women. Ist

¹ T.A.G. Rao, *Elements of Hindu Iconography*, I, Part 1, p. 49.

² *Ibid.*

³ Please see Chapter II.

⁴ A.E. Werner in *The Conservation of Cultural Property*, p. 278.

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Encyclopaedia Britannica*, 12, p. 835, mentions that scraps saved from carvings of statues are used for

inlaying. The material being very precious, every particle of it is fully utilised. The rings left in the turning of billiard balls served as women's bangles. Even the dust is used for polishing and in the preparation of India ink.

⁸ Maskell, p. 31.

⁹ Moti Chandra, "Nidhiśringa (cornucopia): a study in symbolism", *Bulletin of the Prince of Wales Museum*, 9, p. 23.

¹⁰ *Ibid.*, Fig. 24.

popularity is attested by archaeological excavations which have yielded combs in abundance.¹ The shapes, sizes and designs changed, but use of ivory for making combs has continued from the Harappan period² till today.

Hair Pins and Antimony Rods

Hair pins made of ivory have been discovered in quite a few excavations in the subcontinent. Some of these are surmounted by birds and other motifs.³ Antimony rods of ivory are another very common item found in plenty from almost every excavated site. These were called "*añjana śālākā*" in ancient India.

Dice-pieces

Dice has always been a favourite game in ancient India. The oblong ivory pieces marked with numbers (usually in the form of a circle or concentric circles) are very common finds from excavations.⁴

Chessmen

India is known to be the original home of chess (*shataranjan/chaturāṅga*). Ivory chessmen, made during Mughal Period, are found in plenty in various museum collections. Elephant-shaped chessmen of Kusān period were excavated from the ancient town of Dalverzin-tepe in Southern Uzbekistan, Central Asia. Archaeologists believed that they were of Indian origin.⁵ Chessmen seem to be a favourite item to be made of ivory.

Bangles, Ear-scrolls and Rings

It is apparent from the famous figure of a dancing girl from Mohenjo-daro that bangles (armful of them) have ever been quite in favour with Indian women. The popularity continues till today. The early craftsmen must have found the round shape of the tusk favourable for producing bangles and its stainless whiteness must have attracted ladies. Many such bangles, often in broken pieces, have been discovered from excavations.⁶

Ivory's use for ear-scrolls is mentioned by Kalidasa in his *Raghunamśa*.⁷ Another treatise, *Kuṭṭanīmatam* of Damodaragupta (c. 8th century A.D.) describes such use, not merely by women, but also by men.⁸

Ivory rings are also mentioned in Sanskrit literature.⁹

Handles

Ivory has also been used for handles of mirrors,¹⁰ fly whisks and other such items of everyday use. Obviously, these items with ivory handles must have been made for the use of a rich clientele, as commonly such things were and are still fitted with handles made of wood. While the wooden handles are usually plain, the ivory handles are well carved with figures and motifs.¹¹

Sword hilts are also made of ivory.¹²

Furniture

Ivory has often been used to embellish furniture. It is believed that if not all, at least some of the pieces found at Begram once decorated furniture.¹³ An inscription on the walls of an Orissan temple

¹ Taxila alone has yielded several interesting examples. Cf. J. Marshall, *Taxila*, II, p. 655.

² Mackey, p. 541.

³ Marshall, *op. cit.*, II, p. 658.

⁴ H.D. Sankalia, S. B. Deo, Z.D. Ansari and S. Ehrhardt, *From History to Prehistory at Nevasa (1954-56)*, p. 461.

⁵ News item in the *Hindustan Times* of 13 February, 1974, p. 6.

⁶ *I.A.R.*, 1959-60, p. 19, shows bangles discovered at Chandraketugarh, West Bengal.

⁷ *Raghunamśa*, VI, 17.

⁸ *Kuṭṭanīmatam* (tr. Attridge Vidyānāth), śloka 62.

⁹ *Kādambarī*, p. 273.

¹⁰ J. Ph. Vogel, "Note on the ivory statuette from Pompeii", *Annual Bibliography of Indian Archaeology*, XIII (1938), p. 1.

¹¹ R.E.M. Wheeler, "Arikamedu, an Indo-Roman trading station on the east coast of India", *Ancient India*, no. 2, p. 108.

¹² *Mahābhārata*, II, 47, 14.

¹³ J. Auboyer, "Ancient Indian ivories from Begram, Afghanistan", *J.I.S.O.A.*, No. 16, p. 35.

records the gift of ivory couches.¹ Ivory was also used for the staffs of the royal palanquins.² Ivory throne legs from Orissa have been found in great numbers.³

Manuscript covers

In ancient days, when palm leaf was used for writing purposes, wooden or ivory covers were provided for such manuscripts to protect them from warping.

Boxes, Ewers and Unguent Pots

Classical Sanskrit literature mentions royal beds near which stood golden figures holding ivory boxes,⁴ perhaps containing perfumes or "tāmbūla". A Buddhist text mentions a "needle-case made of ivory".⁵ Ivory ewers are mentioned in the famous Buddhist text *Mahāvastu*.⁶ The same text speaks of ivory "*rocana piśūcikā*", which has been interpreted as "unguent pots effecting fantastic genii forms" by Moti Chandra.⁷

Seals

It seems that people in ancient days had a fascination for seals for quite a number of them have been unearthed from various excavated sites. Although generally made of clay, seals made of ivory have also been found at Rupar,⁸ Ujjain,⁹ and many other sites.

Batons

Mohenjo-daro has yielded several pieces of ivory, which have been designated as batons by Mackey.¹⁰

Other uses of Ivory

Literature and excavations attest to many other uses of ivory. Greek accounts tell us that trappings of horses were studded with ivory¹¹, and bosses of shields as well as handles of keys also got a touch of ivory.¹² Crocodile mouthed conduits of ivory were fixed in temples and palaces.¹³

Excavations have also yielded some interesting ivory objects, such as a graduated scale, each division roughly corresponding to 1.7 mm.,¹⁴ and a stopper having an etched figure of an elephant.¹⁵ Among some recent uses, mention can be made of ivory billiard-balls, euf-links and buttons, paper-knives, etc.

BONE

The use of bone for utilitarian objects is known from the earliest times. The material being readily available, men used bones for varied purposes right from the palaeolithic period.

Arrow-heads

Bone arrow-heads, discovered in abundance from almost every excavated site,¹⁶ were in common

¹ R. Mitra, *Antiquities from Orissa*, II, p. 165.

² N.G. Majumdar, *Inscriptions of Bengal*, III, p. 122.

³ V.P. Dwivedi, "Ivoires Indiens", *Arts Asiatiques*, XVI, pp. 59-74.

⁴ *Harsacarita* (tr. Cowell and Thomas), p. 131.

⁵ The *Putimokkha* (tr. J. F. Dixon). The book deals with Buddhist office of the confession of priests and rule no. 86 requires them not to use an ivory box as needle-case as it is liable to be broken.

⁶ The term used is "*danita bhṛingāraka*".

⁷ Moti Chandra, "Technical arts in ancient India", *J.U.P.H.S.*, XXIV-XXV, 1951-52, p. 166.

⁸ Y. D. Sharma, "Past Patterns in Living as Unfolded by

Excavations at Rupar", *Lalit Kala*, no. 1-2, p. 121-129.

⁹ *I.A.R.*, 1957-58, p. 36.

¹⁰ Mackey, I, p. 432.

¹¹ Homer, *Iliad*, V. 584.

¹² *Odyssey*, XXI, 7.

¹³ V.S. Agrawal, *Harsacarita, ek Sāṅskṛitika Adhyāyana*, p. 17.

¹⁴ *I.A.R.*, 1959-60, p. 17, pl. XIII. B.

¹⁵ Y. D. Sharma, *op. cit.*, pl. XIII-B.

¹⁶ For example, Nasik alone has yielded (from the Andhra workshop) 17,868 broken and 1499 workable specimens, Cf., H.D. Sankalia and S. B. Deo, *Report on the Excavations at Nasik and Jorwe*, p. 124.

use for hunting at Ujjain. one such bone-arrow head was found stained with the blood of a bird.¹ Ujjain has yielded many examples of bone arrow-heads, some of which show various stages of production (Pl. 6).

Short daggers, Harpoons, Polishers and Scrapers, etc.

The most significant discovery of bone tools comes from Burzahom (Kashmir), where short daggers, awls, antimony rods, polishers and scrapers, chisels, needles with eyes and harpoons,² including unfinished specimens, have been found. Even today bone awls serve Australians in the manufacture of coiled baskets.³ Bone knives are also known.⁴

Containers

Sockets of bone joints served as container for paints and greases.⁵

Stylus, Handles and Spoons, etc.

Ujjain excavations have yielded a bone stylus and a socket for its working end.⁶ Handles for fans, fly-whisks, and other similar accessories were often carved out of bones.⁷ Spoons, harpoon-hooks and scrapers are some of the other things which were made of bone from the palaeolithic age.⁸ A Buddhist *Jātaka* refers to a children's necklace fashioned out of monkey's bones.⁹

Bangles and Spindle Whorls

Although bangles are usually made of ivory, two bone bangles have also been found in Maheshwar and Navadatoli excavations.¹⁰ Three specimens of bone spindle whorls have been found at Nevasa.¹¹ Two of these are perforated, and the third is without perforation.

Pendants

As early as neolithic period bone pendants looking like a miniature neolithic axe were made by careful grinding and suspending hole was provided by drilling from both the sides.¹²

Shaft-straightner

Long bone of circular cross-section was curved to make the shaft-straightner. In the mid-portion of it an outline of a circle was drawn with the bone-divider on both the dorsal and ventral sides. A small hole was made with a pen-knife blade in the centre of the circle and gradually the central hole was made bigger by scraping. It was meant for straightening of bones.¹³

THE IVORY-CARVER

The position of ivory carvers in the ancient Indian society gives us an idea of the ivory trade in early antiquity. Archaeological as well as literary sources throw light on the craft and position of the ivory-carvers in society.

As we have already stated,¹⁴ Mackey found two elephant tusks in association with nine human skeletons at Mohenjo-daro.¹⁵ He suggests that the skeletons represent the remains of a family which tried to escape from the city with its belongings. "One or more of the family may have been ivory

¹ *I.A.R.*, 1956-57, p. 27.

² *Ibid.*, 1961-62, p. 19 (pl. XXXVII A-B).

³ Julius E. Lips, *Origin of Things*, p. 120.

⁴ Still in use in the jungles of Bolivia. Cf. Lips, *op. cit.*

⁵ Lips, *op. cit.*, p. 120.

⁶ *I.A.R.*, 1956-57, p. 24.

⁷ Taxila, Ahichhatra and many other sites have yielded such bone handles, Cf., R. C. Agrawal, "Early Indian bone figures in the National Museum, New Delhi", *E.H.*, 18, No. 3-4, pp. 311-314.

⁸ "Fur Scrapers made of thigh-bones are a universal tool of the American Indians from California to Labrador."

Cf., Lips, *op. cit.* p. 120.

⁹ *Ahigundika Jātaka*, no. 365, III, p. 187.

¹⁰ H.D. Sankalia, B. Subbarao and S. B. Deo, *The Excavations at Maheshwar and Navadatoli (1952-53)*, p. 224.

¹¹ H.D. Sankalia and others, *From History to Pre-History at Nevasa (1954-56)*, p. 455.

¹² Lala Aditya Narain, *A Study in the Techniques of Neolithic Bone Tools Making at Chirand and their Probable Uses*, p. 19.

¹³ *Ibid.*, p. 20.

¹⁴ See page I.

¹⁵ Mackey, p. 117.

workers, and only the tusks for which the raiders had no use were not taken as loot.¹ Ivory combs, batons, fishes, vessels, hooks and gamesman, etc., attest the skill already achieved by the ivory workers of the Harappan civilization.

The mention of ivory carver's bazar at Benaras in the *Silavanāga Jātaka*² indicates the importance of this craft in Buddhist times. This Jātaka story further shows that the tusks of a living elephant were valued more than those of a dead one.³

The *Rāmāyana* mentions a guild of ivory carvers,⁴ along with various other guilds. This shows that the profession was well organized in this age. Besides a guild of ivory carvers, there was another of *dantopajivinah*, presumably hunters who collected and sold ivory for their livelihood.⁵

The *Mahāvastu*, a Buddhist Sanskrit text of the early centuries of the Christian era, furnishes interesting information about the ivory carver, who sometimes also worked as the conch shell cutter.⁶ It was true of the Kānya-Kubja city, where Prince Klušha went as an apprentice.

A Jaina text mentions ivory workers among the important artisans.⁷

The most interesting evidence about the ivory carver's guild is provided by the famous Sāñchi Torana inscription, which states; "this figure carving has been done by the ivory carvers of Vidiśā".⁸ Incised in the 2nd century B.C., the inscription shows how marvellous the sculptors of Vidiśā were, both in delicate ivory carving and hard stone sculpture.

Another record, which mentions an ivory carver, is the Bhatera copper plate inscription of Govinda Keśavadeva (c. 1049 A.D.).⁹ The donor gave away certain villages for the worship of Lord Siva, and also attached certain categories of people to serve the Lord, and one such category was that of *dantakāra*.¹⁰

The above evidences show that ivory carving was recognized as a profession of skill in ancient India, and ivory carvers enjoyed an honourable status in society. A famous Buddhist text narrates the story of a king, who saw an ivory carver busy with his work and covered with ivory dust, and wished that he was himself an ivory carver like the artist who produced wonderful things of beauty.¹¹

THE TECHNIQUE OF CARVINGS

The use of ivory as a material adopted for sculpture and decoration has been universal in the history of civilization and down the ages there has hardly been any change in the actual process of its working.¹²

Owing to the curvature of the tusk making almost a semi-circle (Pl. I), it is difficult to find a large area of thickness to work in. An exceptionally solid point may enable one to carve a figure in the round, measuring about 75 cms. in length.¹³

Despite differences between ivory and bone, both are carved in the same way and almost with the same tools. The discovery of about 150 bone artifacts from Chirand in Bihar helps us to reconstruct the

¹ Mackey, p. 117

² *The Jātakas*, I, no. 72.

³ Knowledge of this technical factor shows the advancement in this craft. The tusks from a living elephant are softer to cut and fashion because of the presence of an oily solution which dries up after death.

⁴ *Rāmāyana*, II, 94, 13.

⁵ Moti Chandra, "Ancient Indian Ivories", *Bulletin of the Prince of Wales Museum*, 6, p. 5.

⁶ *The Mahāvastu* (tr. J. J. Jones), p. 421.

⁷ J. C. Jaina, *Life of Ancient India as Depicted in the Jaina Canons*, p. 100.

⁸ "Vidishī dantakārehi rūpakamnam katam", G. Buhler

"Votive Inscriptions from Sanchi Stupa", *Epigraphia Indica* II, (1892), p. 92.

⁹ E. I., XIX, Part VI, (April 1928), no. 49, p. 286.

¹⁰ The actual word used in the inscription is "*dantavāra*" which is obviously the mis-spelt word "*dantakāra*".

¹¹ C. Sivaramamurti, *Indian sculpture*, p. 8.

¹² "Although early stone tools gave way to better ones of other materials and various refinements were gradually learned, the basic methods for carving ivory remained essentially the same, down the ages". *Encyclopaedia Britannica*, 12, p. 836.

¹³ *Ibid.*

process of tool-making during neolithic period.¹ We can say that after dismembering the animal bones the marrow was removed by boiling them in earthen pots, probably in soda and calcium, remains of which have been found in pots. Then the porous surface of the boiled bones was filled with liquid wax to provide strength and also to prevent them from absorbing moisture. It is well known that boiling makes the bones soft and they can be cut, holed or bent while still warm.

Once the desired piece was detached from the original bone, it was dressed with stone blade to make a rough-out of a tool which the craftsman intended to make. It was rubbed against sand-stone piece to make the surface smooth. Finally, the tool was filed down to give regularity to the form and to provide a sharp working end. Eyes or holes were made in the tools with the help of bone drills of various sizes. The tools were made durable by subjecting them to fire but before placing in the fire they were covered with clay.²

The actual process of sculpturing a figure out of an ivory-piece, or scratching figures on flat ivory, is quite similar to the process of carving in stone.³ Even the tools employed are similar and differ only in size—those for ivory carving being smaller than those for carving stone. First of all, the heavy outer bark of the tusk has to be removed. The inner section is then cut to a small section according to convenience (Pl. 7). While cutting the tusk into small sections, care is taken that the pieces are cut in the direction of the grain.⁴

The artist then draws on paper a sketch of the article proposed to be carved. An ivory piece of the required size is then cut from the tusk, after fixing it in a vice.⁵ The portion of ivory gripped in the vice is wrapped with cloth so that the jaws of the vice may not leave any mark on ivory. It is then cut by a handsaw. "Water is poured intermittently along the line of sawing for easy movement of the saw."⁶ When the required piece of tusk has thus been obtained, the outline of the object is drawn in pencil⁷ on the ivory-piece taking the model of the sketch (Pl. 8).

The ivory-piece is again fixed in a vice, and with the help of a small chisel and a wooden mallet a rough shape is carved out. Chiselling of ivory is very delicate work. It requires great skill and patience because there is a possibility of breakage at every stroke. The rough-cut is then smoothened by a file.

The chisel is then used again according to need. Even minute unwanted particles are removed, and thus the shape of the figure emerges. Perfection in carving can be achieved only through experience. The figure is then ready for polish (Pl. 9).

Polish

Generally, the dust of ivory itself is used for polishing ivory statues. An ivory object may also be polished with the central rib of the leaf of the bread-fruit tree.⁸ The outer portion of the rib has a rough surface. The leaf is dipped in water, and the article is rubbed with the rib. As a result of the contact with the rough surface of leaf, the object acquires a shining finish. The advantage of this method is that the leaf does not leave any mark on the figure itself. The figure is then washed in water. After drying the water with a cloth, the subject is brushed thoroughly and is ready for sale.

Yet another way of polishing, which has now gone out of practice, was with the powder of the dried tongue of a fish called "*kanava*."⁹ The powder was rubbed smoothly with a wet cloth. The oily

¹ Iala Aditya Narain, *A Study in the Techniques of Neolithic Bone Tool Making at Chirand and their Probable Uses*, pp. 3-5.

² *Ibid.* One such clay embalmed artifact was discovered from the Chirand excavation which substantiates the above observation.

³ Had it not been so, the ivory carvers of Vidisha could not have produced such marvellous carvings at Sanchi.

⁴ *Encyclopaedia Britannica*, 12, p. 836.

⁵ It is called "*Hathakala*" in the Banarās region, while in Kerala it is known as "*Putim rakku*".

⁶ M. K. Devassey, *Selected Crafts of Kerala*, VII, A, p. 128.

⁷ Ordinary lead pencil is used for this purpose. The pencil lines can be fixed by painting over the whole surface with white spirit varnish. This quickly dries into a hard transparent skin, impervious to moisture, which in no way interferes with the process of the carving. *Encyclopaedia Britannica*, 2, p. 221.

⁸ Scientific name of the tree is *Artocarpus incisa*.

⁹ M. K. Devassey, *op. cit.*, p. 128.

solution contained in ivory pores helps in obtaining a better finish for its products, which the objects produced in bone lack.

Colouring of Ivory

In spite of the unusual fascination for its whiteness, ivory has been pigmented in every epoch. Harappans coloured some of their carvings with black and red.¹ The Egyptians probably soaked their ivories in baths of mineral salts : red, yellow, brown, green or black malachite.²

Ivory Inlay Work

The design of the inlay is traced with the help of a carbon paper on the wooden article to be decorated. Along the lines of the design, a groove of about 0.3 cm thickness is cut in sufficient length³ and ivory pieces are applied along the grooves and the edges hammered down and levelled with the surface. Inlay in dark-coloured wood brings out excellent results. However, ivory is seldom used for the curves in the inlay work. Instead, deer-horn is used which resembles ivory in colour, and is considerably cheaper.

Tools for Ivory-carving

The ivory-carver uses practically the same tools as the wood-carver, and it can be said of Indian carvers that their tools have hardly changed from early pre-historic times. Excavated material shows that the saw was used in the Indus valley civilization for cutting ivory.⁴ The same tool was used at the time of the Bharhut sculptures⁵ (Pl. 10) and is still being used by modern ivory-carvers⁶. The range of these tools is quite limited and they are only a few and quite simple (Pl. 11).

1. Saw

Locally called *ārī*, the saw used for ivory cutting is usually a bow-saw. This is a narrow saw, say 25 cms. long, stretched like a bow-string on a wooden frame. For very fine work, such as for making comb's teeth, etc., a saw called "*mahin-dāntā*" is used.

2. Rasp and File

Fine rasps and medium files will be found useful at many points of ivory-carving. The files, locally called "*retī*", used in ivory-carving, are of the following types:

Chauras retī : Broad file for levelling purposes.

Golak retī : Circular file.

Katār retī : It can be used by side as well as flat.

Khari-chauras retī : It is used on thin borders, etc. }

Nimgirdā retī : Half-round file.

Tinadhārā retī : File having three edges.

Tārawālī retī : Very thin file, used for perforation work.

3. Vice

The ivory is best held for carving in a wooden vice, but iron vices are generally used, and in this case cork or thick felt is inserted into the jaws, so that they do not leave any mark. Locally it is called "*hathakala*".

4. Scraper

It resembles a wood-carving chisel, pointed or round as required, with the front face kept flat and the rear face bevelled off into a cutting edge. This is the most distinctive tool used in ivory-carving.

¹ See Chapter III.

² O. Beigbeder, *Ivory*, p. 34.

³ *Encyclopaedia Britannica*, 12, p. 835.

⁴ S. R. Rao, "Further excavations at Lothal", *Lalit Kala*,

no. 11, p. 23.

⁵ A. Cunningham, *The Stupa of Bharhut*, plate XXVI, 6.

⁶ Interviewed Ramnagar artist, previously attached to the Maharaja of Banaras' court.

5. *Float*

This is a triangular-tapering tool in a wooden handle. Two of the three faces are cut across into small ridges throughout their length.

6. *Gouge and Mallet*

Small gouges, up to about 1.2 cm., tempered as for wood-carving, may be used with a mallet.

7. *Chisel*

After the roughing out has been done, this small tool, in different sizes, comes into use for smoothing the rough surface.

8. *Hammer*

Small hammers are also used with the chisel.

9. *Drill*

It is used for making holes, etc.

10. *Compass*

It is used for making certain designs and for round things.

Bone And Ivory in Epigraphs And Literature

Introduction

From the remotest periods of Indian history come the stories of an intimate companionship between man and nature, with man not only as a bystander interpreting and observing, but forming a part of it, and growing with it. And when he began to transmit his thoughts through words preserved in written records, literature, the repository of the accumulated experience of the past, was born. The antiquity of Indian literature goes back to the 2nd millennium B.C. when the composition of the *Rg Veda* is supposed to have begun. Inscriptions on rocks, pillars and stone tablets, and copper plates, etc., also furnish reasonably faithful reflections of diverse human activities in India of the yore. Not all these record ivory carvings; yet quite often these are mentioned in epigraphs and literature, which will form the burden of discussion in this chapter.

EPIGRAPHICAL REFERENCES

Epigraphs on stone and copper plates provide us with some interesting information about ivory carvings. One of these tells us about ivory exports; another, about a guild of ivory carvers; a third, about the use of ivory in the decoration of palanquins; a fourth, about the ivory workers attached to a temple; while yet another talks of the rights of tusk-collection from forestland. They are described below :

Susa Inscription of Darius I

Darius I of Iran, who reigned between c. 522 and c. 486 B. C.,¹ was a great builder. The palace he built at Susa still evokes admiration from viewers. The inscription at the Susa palace, generally known as the Susa inscription, mentions of various objects brought by Darius' subjects from different parts of the world for decorating the palace. It states : "The ivory which was wrought here, was brought from Ethiopia and from Sind and from Arachosia."² Obviously Sind must have been one of the most famous ivory markets at that time. But since there is no geographical evidence of that region providing a habitat for elephants, ivory for Sind market must have been brought from the neighbouring regions. However, the fact remains that India was exporting ivory as early as the 6th century B.C.

Inscription from the Sāñchī Stupa

A short dedicatory record, inscribed on the southern gateway of the great *stupa* at Sāñchī, mentions that the ivory carvers (*dañta-kārehi*) of Vidiśā carved the figures (*rūpa-kammam-kāṭani*)³ thereon. It is reasonable to infer from this record that Vidiśā in the 1st century B. C. had a flourishing trade-guild of ivory-carvers, who readily lent their free services for the sculptural

¹ R. Ghushmann, *Iren*, p. 165.

² *Ibid* l.

³ G. Buhler, "Votive Inscriptions from Sanchi Stupas", *E. I.*, II, (1892), p. 92.

embellishment of the said gateway. How well they fared working in a new medium is evident from the attention to minute details found in the stone reliefs.

The Bhatera Inscription

The Bhatera copper-plate inscription from the 11th century was unearthed from a mound in the village Bhatera, near Sylhet, Bengal.¹ It records that one Govinda Keśavadeva, son of Nārāyana, the ruler of Śrīhatta in the 11th century, made a donation of 296 houses and 375 *hahas* of land to the temple of god Śiva at Bhatapadā (modern Bhatera). He also appointed different categories of skilled workers from amongst his subjects; to attend on his deity. One of these persons was Rajvija, the ivory-worker,² who lived in the nearby village of Sinhajara. The fact that an ivory carver was attached to lord Śiva's temple makes it apparent that the trade was held in high respect, and that objects of ivory were used-even in the temple.

A Copper-plate Grant from Kelga

Kelga is a small village in the Uttara-tīra division in the old Sonepur State of Orissa.³ Four copper-plates strung in a copper ring were found together, three forming an inscription of the Somavamśī ruler Someśvara; while the fourth is an incomplete record. This fourth plate forming an incomplete grant, however, interests us most.

It mentions the grant of a land to the donee Brāhmana Bhatṭaputra Ābhābhakaraśarmaṇ. It seems that the land was apparently situated in a forest, as the privileges of the donee included his right to enjoy "*hastidanta*" and other animal products.

The specific mention of ivory or "*hastidanta*" makes it clear that ivory, a valuable item, had a good market. It further confirms the fact that Orissa was famous for its ivory and ivory products from ancient times.

The inscription is datable to the third quarter of the 10th century.

Edilpur Copper-plate of Keśava Sena

This inscription, too, comes from eastern India, i.e., Bengal.⁴ Describing the exploits of King Ballalasena, the inscription states that "He carried away the fortune goddess of his enemies on palanquins resting on staffs made of elephants' tusks."⁵ Obviously the reference means either a big palanquin with its posts studded with ivory, or a small one with its poles made of tusks for carrying images of gods and goddesses only. It is known that Ballalasena was ruling in the year 1168-69 A.D., and, therefore, the inscription should belong to that period.

LITERARY REFERENCES

Vedic Literature

For the early period, the literary sources yield evidence of a scrappy nature. Vedic literature is well acquainted with elephants, but does not mention ivory anywhere. Several words have been used for elephant, *ibha*,⁶ *nāga*,⁷ *mṛigavāraṇa*⁸ and *hastin*.⁹ In fact, some scholars believe that the word ivory has been derived from *ibha*.¹⁰ In view of such close acquaintance with the elephant, and also the free use of ivory by the people of the Indus Valley, whom the Vedic Aryans probably supplanted¹¹, it is surprising that the Vedic literature should not mention ivory or any object made of it. An indirect reference can, however, be found in the following passage from the *Āitareya Brāhmaṇa*.¹² "They

¹ The Bhatera Copper-plate inscription of Govinda Keśavadeva, *E. I.*, XIX, part IV, (April 1928), pp. 277-286.

² The actual term used in the inscription is "*daṇṭakāra*" which seems to be a spelling mistake on the part of the scribe for "*daṇṭakāra*".

³ D. C. Sircar, "Two Inscriptions from Kelga", *E. I.*, XXVIII, no. 50, pp. 326-327.

⁴ N. G. Majumdar, *Inscriptions of Bengal*, III, p. 122.

⁵ *Ibid.*, "*diṇḍanādarḍa śivikāmāroṇyū*".

⁶ A. H. Macdonell and A. B. Keith, *Vedic Index*, I, p. 79.

⁷ *Ibid.*, p. 440.

⁸ *Ibid.*, II, pp. 171-172.

⁹ *Ibid.*, pp. 501-502.

¹⁰ W. H. Schoff, *The Periplus of the Erythraean Sea*, p. 193.

¹¹ M. Wheeler, *The Indus Civilisation*, p. 90.

¹² A. B. Keith, *Āitareya Brāhmaṇa*, VI, 27.

recite the *Śilpa*s. These are the works of art of the gods (*devaśilpānyateṣām*); in imitation of these works of art, here is a work of art accomplished, an elephant (*hastin*), a goblet (*kamśa*), a garment (*īśasā*), a gold object (*hiraṇyam*), a mule chariot (*aśvatarī rathah*); a work of art is accomplished in him who knows thus."

It is significant that the passage makes a direct reference to the arts and crafts of the period, such as bronze casting, weaving, goldsmithing and chariot-making. It is thus obvious that "*hastin*" should mean here the art of ivory carving, and this, therefore, will be earliest reference to this craft according to some scholars.¹

But another earlier indirect reference can be noticed in *Rg Veda*² itself, where a gambler is said to have remarked that though he would not like to go back to gambling, yet seeing the brown dice³ he could not resist himself. It is quite obvious that by brown dice he means nothing else but dice made of ivory which takes a brownish colour with time and by constant handling. This, therefore, can be the earliest reference to an ivory object in Vedic literature.

The Rāmāyaṇa

By the time of the epics the profession of ivory-carvers was well organized and developed. Among a large number of guilds mentioned in the *Rāmāyaṇa* appear ivory-carvers (*daṇṭakārāḥ*) and ivory dealers (*daṇṭopajivinaḥ*).⁴ Apparently the profession was organized into two different guilds: one of carvers, and the other, of dealers or those who hunted elephants for ivory. The *Rāmāyaṇa* makes many mentions of ivory and items made thereof.

In the *Ayodhyā kāṇḍa*⁵ we find Bharata mentioning a bad dream in which he saw the tusks of king Daśaratha's elephant falling into pieces. Thus, it appears that the breaking of an elephant's tusks was regarded as a bad omen. The effect of the evil portent is proved by the later developments of the *Rāmāyaṇa* story.

Royal beds were embellished with ivory in the *Rāmāyaṇa* age. Hanumān searching for Sītā in Lankā, describes Rāvaṇa's bed decorated with ivory work.⁶

Ivory was also used for decorations in the royal buildings. Rāvaṇa's palace in Lankā had ivory inlaid floors,⁷ and pillars.⁸ The windows, too, were embellished with ivory.⁹ The pillars and windows must have been made of wood inlaid with ivory. How it was used in floors is something beyond comprehension unless the floors in question were also wooden. But the reference certainly shows that it must have been available in abundance to be so used.

Rathas or chariots were also embellished with ivory. Hanumān, while searching for Sītā, saw such chariots in Rāvaṇa's palace.¹⁰ Not only *rathas* but palanquins (*śivikā*)¹¹ were also adorned with ivory in the *Rāmāyaṇa* age. Reference can be found in the *Rāmāyaṇa* also to royal umbrellas which are specifically stated to be of white colour.¹² It is not impossible that the said umbrellas were heavily

¹ Moti Chandra, p. 5.

² *Rg Veda*, 10, XXXIV, 5 "Yadādīdhye na daviṣyeyebhūh parādudbhayava hiye vakṣibhyah nyutāścha babhravo vāchama-kṛtām emidevān niṣkṛtān jūriniva". "Gambling played a small but significant part in the ritual consecration ceremony and the gambling hall attached to the king's palace in the later Vedic period had some magical or religious significance, though its import is not wholly clear". (A. L. Basham, *The wonder that was India*, pp. 207-210).

³ *Ibid.*, "babhravo". In many cases it has been observed that ivory takes a brownish colour by constant handling and with passage of time.

⁴ *Rāmāyaṇa*, 11, 84, 13.

⁵ *Ibid.*, *Ayodhyā kāṇḍa*, 69, 12 "auparūhasya nāgasya viśāmanīr-satā-kṛtān".

⁶ *Ibid.*, *Sundara kāṇḍa*, 10, 2 "dāntakāñchanachīrāṅgai vaiḍā-

ryaiścha varāsmait".

⁷ *Ibid.*, *Sundara kāṇḍa*, 9, 22-23. "maṇisopānavikṛtān hemajālārarājītām sphāṭikairāvratatātām dantānta ritārūpikān."

⁸ *Ibid.*, *Āraṇya kāṇḍa*, 55, 8. "dāntakāṣṭhāpanīyāiścha sphāṭikāi rājatutisthā vājavaidūryachitrāiścha stambhair-dṛṣṭī manoramaiḥ."

⁹ *Ibid.*, 55, 10. "dāntakā rājatāśchaiva gavāḥśūh priya darśanāḥ hemajālārvāśchāsantatra prāsādapāṅkṛtāḥ."

¹⁰ *Ibid.*, *Sundara kāṇḍa*, 6, 6. "Simhavyāghratamutrānāḥ dantī-kāñchanarājatāḥ ghayavad'hīrīchītrāiścha sadā viccharitān rathaiḥ."

¹¹ *Ibid.*, 27, 9. "vācha yachmanāḥ kālē trījaṭā svapanasajīrītān ghāḍantamaṣṭi dhīyām śīcikāmanāṭarikṣaṇāḥ."

¹² *Ibid.*, *Ayodhyā kāṇḍa*, 11, 7; *Kīśkindhā kāṇḍa*, 38, 12; *Yuddha kāṇḍa*, 131, 65.

decorated with ivory, and hence looked white. All these references confirm that ivory was variously, if not also extensively, used in the *Rāmāyaṇa* age.

The Mahābhārata

The *Mahābhārata* gives more explicit information about ivory carving in the time. We are told that king Bhāgadatta of Prāgyjyotiṣa (Assam) presented to Yudhiṣṭhira many swords with handles made of pure ivory (*śuddhadantatsarīṇasāṁ*)¹ on the occasion of Rājasūya sacrifice. Apparently, Assam was a rich source of ivory. It is interesting to note that, right from the days of the *Mahābhārata* till today, ivory forms a favourite material for making sword handles.

Another reference mentions kings of eastern India, which included ancient Magadha, Bengal and Orissa, presenting to Yudhiṣṭhira very valuable chairs (*āsanāni mahāhāni*), sedan chairs (*yānāni*) and beds (*śayānāni*) inlaid with precious stones and gold (*maṇikāñchanachītrāṇi*) and made of ivory (*gajadantamaṇi*).² Here is clear reference to furniture inlaid with ivory, gold and precious stones which corroborates the facts learnt from the *Rāmāyaṇa*.

A very interesting reference to ivory is of its being used for the spokes of a royal umbrella.³ This lends weight to our earlier conclusion based on the *Rāmāyaṇa*.⁴

Ivory was also used for embellishing royal thrones. In the description of Yudhiṣṭhira's anointment, we are told that Prtha, the priest of the Kauravas, was seated on a throne decked with ivory (*dante śaiyāsane*) accompanied by Sahadeva and Nakula.⁵

Yet another use of ivory, in its tusk form, is provided in the *Kuruparva* of the *Mahābhārata*.⁶ It mentions Duryodhana anointing Karna as his Senāpati by pouring on his head water contained in elephants tusks. Here the word "viṣāṇa" means both a horn, as of a bull and a rhinoceros, and a tusk, of an elephant.⁷ Pouring holy water on the head of the anointed was an ancient custom employed in the *Rājasūya* and *Abhiṣeka* ceremonies.

Buddhist Vinaya Texts

The Buddhist Sanskrit Vinaya relates the story of a master ivory-carver (*dantakalāhārya*) who went to the land of the Yavanas with a measure of "ivory rice" (*dantataṇḍula*)⁸ and appeared at the house of a master artist, who was however, absent. The Indian ivory craftsman gave the "ivory rice" to the latter's wife, asked her to cook it, and went away. She tried hard to boil it, but failed. The story illustrates the ingenuity of the Indian carver who fashioned such realistic rice out of ivory as could dupe even the wife of a Greek artist. It also points to the travels of Indian artists as far afield as Alexandria.⁹

In the early Vinaya texts needle-cases made of bone, ivory and horn are mentioned.¹⁰ If a priest has a needle case made of bone or ivory, or horn, it is liable to be broken, and a *pacittiya* sin is committed. Sword handle¹¹ and ear-cleaners,¹² made of ivory bone and horn, are also mentioned in the Buddhist literature.

¹ *Mahābhārata*, *Dyūtaparva*, II, 47, 14. "Aśma sūamayaṇi bhāṇḍāni śuddhodantatsarīṇasāṁ Prāgyjyotiṣaḥ Bhāgadattā Bhagadantatsoṣrajatāni āni."

² *Ibid.*, II, 47, 29.

³ *Ibid.*, *Bhīṣmaparva*, 22, 6. "Samucchelīṣṭāni dantaśalākamaśya supāṇḍuraṇi chhānamatīva bhātī".

⁴ Please see preceeding page.

⁵ *Mahābhārata*, *Sāntiparva*, 12, 40, 4.

⁶ *Mahābhārata*, *Karnaparva*, 6, 37. "Tovapūrnaviṣāṇaiścha dhaipa-khaṇḍamaharṣubhaiḥ Manimuktāmayaiśchānvaiḥ

punya-gandhaistachauśadhaiḥ."

⁷ Moti Chandra, "Nidhikrīṅga (Cornucopia): A Study in Symbolism," *Bulletin of the Prince of Wales Museum*, no. 9, p. 10.

⁸ Gilgit Manuscripts, III, Part I, p. 171.

⁹ Moti Chandra, p. 8.

¹⁰ *Bhikkhu Patimokkha*, V, 86 and *Bhikkhuni Patimokkha*, IV, 12.

¹¹ *Sotthakadanda*, *Chulavagga*, V, I, 12.

¹² "Karpamalaharini", *ibid.*, V, 3, 7.

Arthaśāstra

The *Arthaśāstra* deals with elephants quite elaborately,¹ and ivory is also mentioned in that connection. It furnishes some interesting information about the collection and price of ivory in the market, which is a clear indication of the demand for works of ivory.

According to *Arthaśāstra* the Mauryas kept forest reserves for the supply of elephants, and if anybody was caught poaching, the penalty was death.² However, those who brought the tusks of dead elephants were duly rewarded. The price of a pair of elephant tusks, when the animal died of natural causes, was four and a quarter *paṇa*.³

Ivory was also obtained by pruning the elephant tusks at regular intervals. According to the *Arthaśāstra* the tusks of an elephant living near a river should be cut after every two and a half years.⁴ The tusks of an elephant living in a mountainous region should be pruned after every five years.⁵ But this cutting had to be done after taking into consideration the length and breadth of the tusk. As much as its circumference at the root had to be left uncut.⁶ Another casual bit of information obtained from the *Arthaśāstra* is that sword handles were made of ivory.⁷

The *Arthaśāstra* advocates strict control of gambling which it would confine entirely to officially managed gambling houses financed by a tax of five per cent on the stakes and a charge for the hire of dice⁸ to the gamblers. Dice was generally made of ivory as is evident from the several ivory dice dug from Mauryan levels.⁹ Quite possibly the ivory obtained by pruning the tusks and other such sources was used for making it. And this must have been one of the important reasons for promulgating the regulations pertaining to the collection of ivory.

Buddhist Jātaka

In Buddhist literature, references to ivory-carving are both interesting and informative. It is said in the *Silavanāga Jātaka*¹⁰ that a forester, tempted by the tusks of the elephant which had once guided him out of the forest when he had lost his way, visited the ivory-workers bazaar¹¹ at Benaras to ascertain the price of ivory obtaining there. Ivory was worked in diverse forms and shapes in this market. The existence of a separate market of ivory-carvers shows that ivory products had certain popularity and the quantum of trade in them was large enough to support a full-fledged market. On being asked what they would offer for the tusks of a living elephant the ivory workers told the enquirer that such tusks were far costlier than those of a dead animal. This minute technical knowledge comes only from long experience.

Another Jātaka, *Chhadanta*,¹² which mentions hunting of elephants for ivory, also says that ivory from living elephants was more costly.

Śilappadhikāram

South India has rich tradition of ivory carvings as attested by *Śilappadhikāram*, a Tamil text of 2nd century A.D. The famous story of "golden anklet", as it is popularly known, mentions of "instruments for carving"¹³ seen by Kovalan, the hero, in the bazaars of Madura. Obviously Madura, a prosperous city of its time, had a good clientele for ivory works and no wonder ivory-carving

¹ *Arthaśāstra*, Chapter 31 and 32.

² R. Shamasastry, Kautilya's *Arthaśāstra* (tr.), p. 49, "astighitānām hanyuh".

³ *Ibid.*, II, 2, p. 49. "dantayajñānī svayam niratasyādharaṭaḥ sapēda chatraspaṇo lābhah".

⁴ *Ibid.*, Chapter 32, prakaraṇa 48. "dantamūlaparīpāha dīkṣamānī prajñāva kalpayeta, abde dīkṣādhī nadijñānī penchāḍe parvatāḥasām".

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*, Book II, XVII, p. 111. "Nīstrīṇīsamānījalagrāsi-

yastayakhaḥḥaḥ Khadga mahīṣaṣṭraṇy viṣāna dūru venu mānīṣakhaḥ".

⁸ *Ibid.*, Book III, ch. XX, p. 223, "Teṣāmadhyakṣāḥ buddhāḥ kākānī rakṣāśeṣa sthāpayepuḥ Kāṇyakṣāṇāmānyopadhāne dūḍāṣāpanodāḥ".

⁹ Ujjain : I. A. R., 1957-58, p. 36; Tripuri : M. G. Dikshit, Tripuri-1962, p. 132.

¹⁰ E. B. Cowell (tr.), *The Jātakas*, I, pp. 175-176,

¹¹ "dāntakāra vithi".

¹² E. B. Cowell (tr.), *The Jātakas* I, p. 205f.

¹³ V. R. R. Dikshitar (tr.), *The Śilappadhikāram*, p. 205.

instruments were seen in the market, which must have had at least a few shops to deserve notice of the hero. It also refers to "the white tusks of elephants"¹ brought as present to the King. The very fact that the tusks were brought as presents for the King shows that they were valuable objects, as only the best was to be offered to the kings. Another item of interest mentioned in this text is a "pestle of white ivory" used by the damsels of Vanji for pounding priceless pearls in sandal wood mortars.² The book thus proves that in South India ivory was being used for producing variety of objects during the 2nd century A.D.

Buddha Charita

Aśvaghoṣa, the author of *Buddha Charita*, is supposed to have lived in the 2nd century A.D. It is interesting to find him mentioning a palanquin embellished with ivory work.³ Besides the ivory adornment, we also hear of white flowers, which most probably were floral patterns carved in ivory. Ivory inlay in wood, thus, seems to be a very old technique.

Milindapañha

The questions of Milinda and the answers by the philosopher monk Nāgasena form an important document of the Buddhist creed and also provide us with some casual yet quite interesting information about the contemporary occupation of ivory-carving. We are informed that an elephant's tusks were cut several times during his lifetime.⁴ Once when Bodhisattva was an elephant, his tusks were cut seven times. It seems that in most of the big cities of ancient India working in ivory was a recognized profession. The city of Śākala, for example, had many ivory carvers.⁵

Mahāvastu

The *Mahāvastu*, Buddhist Sanskrit text of uncertain date, but probably assignable to the early centuries of the Christian era,⁶ also gives a traditional list of arts and crafts together with the products manufactured by master craftsmen who were called *Mahattarakā*. We learn that the master conch-shell-cutter was equally adept in the art of ivory carving. He was, therefore, called *Śāṅkhalaya-kāramahattarakā*.⁷ He made ivory bangles (*nāgadantovalaya*) collyrium sticks (*āñjanīya*), ivory caskets (*dantasamudgaka*), unguent pots with fantastic genii forms (*rochanapīṣāchikā*), ivory ewers, (*dantabhṛūṅgāraka*), *dantarihethikā*(?), which may be the same as Hindi *bijāyātha* (*anklet*),⁸ ivory bed legs (*dantapādāmaya*) and lions (*śiūhaka*), which may also denote lion shaped bed-legs. The word *śiūhaka* may also mean a lion earring (*śiūha-kuṇḍala*), a very precious ornament.

The *Mahāvastu*, in its list of the guilds in Kapilavastu, mentions conch-shell-cutters (*Śāṅkhalika*) and ivory-carvers (*dantakāra*)⁹ as two separate categories of crafts. The above-mentioned master craftsman must have been an exception.

Yet another item, which finds mention in the *Mahāvastu*, is a couch, embellished with ivory. It is stated in this book that king Subandhu of Benaras had sixty thousand couches of gold, silver and ivory.¹⁰

Divyāvadāna

The *Divyāvadāna* mentions ivory seals (*dantasamudrā*)¹¹ which were apparently used in cases of emergency, and being costly items must have served as the insignia of royal or rich persons only. According to traditional accounts, Tishyarakshitā sealed the order of Aśoka to get Kuṇḍala blinded with the king's ivory seal.

¹ V.R.R. Dikshitar (tr.), *The Śalappadhikāraṇī*, p. 284.

² *Ibid*, p. 336.

³ *Buddha Charita*, I, 86. "Dāradarādāmayimatho mahārūhān
sītāsita puspabhṛtān manu pradīpām. Abhajāta śivikām
śhāyadevī tanjyavatī prampatya devatābhīya."

⁴ I.B. Horner (tr.), *Milinda's Questions*, I, p. 292.

⁵ *Ibid*, II, p. 171.

⁶ Moti Chandra, "Technical arts in ancient India",

J U.P.H S., XXIV-XXV, p. 165.

⁷ *Mahāvastu*, II, 473.

⁸ Moti Chandra, p. 8.

⁹ *Mahāvastu*, III, 113.

¹⁰ J. J. Jones (ed.), *The Mahāvastu*, p. 374.

¹¹ E. B. Cowell (ed.), *Divyāvadāna*, p. 410. Many archaeological excavations have yielded ivory seals. Cf., *A R A S I.* 1911-12, p. 43, pl. XVIII. figs. 2-3.

Mṛcchakaṭikam

In *Sūdraka's Mṛcchakaṭikam*, Maitreya, the Brāhmin friend of Chārudatta, when visiting Vasanta-senā, thus describes the beauty of her inner courtyard's doorways: "Down the walls hang long garlands of jasmine that sway like the restless trunk of Indra's elephant Airāvata. The high resplendent archway is encrusted with ivory".¹

Raghuvamśa

Kālidāsa also refers to ivory carvings in his poetry. In the *Raghuvamśa* we find reference to an ivory ear-scroll,² which has been compared to a pale-white Ketaku flower petal. *Raghuvamśa* also refers to an ivory chair used by royal personages³. Such chairs were kept with great care and were covered with cloth to protect them from dust, etc., and were used by kings after their coronation. Yet another reference in *Raghuvamśa* shows the intimate knowledge of the poet about the elephants. It says that "The terrified elephants quenched with the watery drops thrown out of their trunks, the fire that arose from the unsheathed swords of the desperate warriors in armour falling directly on their formidable tusks." Such a minute observation is possible only for a court poet like Kālidāsa.⁴

Meghadūta

Kālidāsa compares the whiteness of Mount Kailāsa with that of a freshly-cut elephant tusk. He clearly knew that a tusk yellows after being cut from the elephant; that is why he used the word "sadyah" meaning freshly-cut,⁵ in order to emphasize its gleaming whiteness.

Kāmasūtra

The *Kāmasūtra* of Vātsyāyana, primarily a technical work on erotics, also refers to ivory carvings. There is a reference to a tusk being used as a peg to hang a lute.⁶ Ear-rings made of ivory and conch-shell were so much in demand that Vātsyāyana includes the making of ivory and conch-shell ear-rings⁷ in his list of sixty-four arts. The commentator tells us that ear-rings were made of ivory, conch-shell, etc.⁸ Dolls, too, (*dhātūrikā*) were made of thread, wood, horn and ivory.⁹ The *Amarakośa* also speaks of *pañcālīkā* and *putrikā*, i.e. dolls made of cloth and ivory (*daṭṭa*), etc.¹⁰ Ivory was also used for the less edifying purpose of making dildoes, along with gold, silver, copper, iron and buffalo horn.¹¹

Viṣṇudharmottara Purāṇa

The *Viṣṇudharmottara Purāṇa*, a text of the Gupta period, while describing various themes to be painted in the royal residences refers to "treasure handles" (*nidhihasṭān*), which were, in all likelihood, the door-handles of treasuries, made of elephant tusks (*mataṅgaṇ*).¹² The text leaves no doubt that during that period, the "nidhiśṛṅga", signifying a bull horn or an elephant tusk, was a well recognized motif associated with good luck and fortune.

Brhatsaṁhitā

Brhatsaṁhitā of Varāhamihira, datable to the Gupta period, deals primarily with astronomy, astrology and other subjects. It devotes two chapters to curious beliefs concerning ivory and to its proper selection from the astronomical point of view. It states that a freshly-cut, glossy-white and even

¹ *Mṛcchakaṭikam*, Act. IV, "dantidanta toraṇa".

² *Raghuvamśa*, VI, 17, "I dāśinīvibhramadantapatraṁ ūpāduraṁ ketakavarhamanyah, priyāntamibochita sanniveśa-irvipāyānūdayasāyāṇā nakhā-graṇi."

³ *Ibid* XVII, 21, "Tataḥ kakṣyāntaranyasta gajāden-taxonam śuchi. Sottaracheḥhadamadhyāsta nepathya graha-nāvi sah."

⁴ *Ibid*, VI, 48, "Tanuṣyājāṁ varmaḥbhṛtāṁ vikośairv-ṣṭaṣṭu dānteyasvibhīḥ paṇḍabhīḥ udyantamagnīḥ śan-ṣṭamabhaḥbhūrgajā vīgnākarasīkareya."

⁵ *Meghadūta*, Pūrvaṃnagha, 29, "Sadyah kṛttadātrādada-

nachchedo gaurasya tasya."

⁶ *Kāmasūtra*, I, 4, 6-10.

⁷ "Karpaputra bhaṅga"

⁸ *Kāmasūtra*, I, 3.16, "dantaśaṅkhādibhīḥ karpapatraviśeṣāḥ"

⁹ *Ibid*, III, 3.13.

¹⁰ *Amarakośa*, II, 10, 29.

¹¹ *Kāmasūtra*, III, 2.5.

¹² Priyabala Shah (ed.), *Viṣṇudharmottara Purāṇa*, III, 43.15, "Nidhiśṛṅgāḥ ṣaṇṇrājannidhi hastānmataṅgaṇ, nidhiśṛṅgāḥ rājanyasya garuḍastathā."

tusk of good smell bestows prosperity. The effects of tusk's dropping down and of its colour fading are considered unlucky like those of its breaking.¹ The text goes to the extent of saying that the gods, demons and men reside respectively, in the root, middle part and the tip of the elephant's tusk. The effect of the omens of these parts will be in order great, moderate and slight, to be felt in a short while after some time (within a month or so), or after a long time (after a month or so), respectively.²

The *Brhatsaṃhitā* provides elaborate instructions for cutting of tusks and enumerates the after-effects at great length. One should leave uncut the portion of a tusk, twice as much as its circumference at the root; and the remainder that may be cut should be used for purposes of embellishment. A little more of it may be cut off in the case of elephant haunting marshy places, and a little less in the case of those inhabiting mountainous tracts.³ The later instruction is a repetition of what is stated in the *Arthasāstra*,⁴ which shows that the knowledge of elephants and their tusks was passed on from generation to generation, and was based on practical experience.

The *Brhatsaṃhitā* recommends the use of elephants' tusks for the construction of couches, etc., in combination with the trees mentioned in the book. This is a clear reference to ivory inlay in wood, a popular device used in furniture for centuries.

Kauśika Sūtra

Ivory is supposed to have magical powers, and was used in several ceremonies, as attested by the reference in the *Kauśika Sūtra*.⁵ The *sūtra*, while prescribing a charm for securing power, recommends that a man should stand beside a tusk. Although no further details of the ritual are available, there is every likelihood that some magical rite was performed to ensure or increase that efficacy of the ivory supposed to possess the miraculous property of imparting power.⁶ In the rite mentioned in *Sūtra* 2 the charm was tied round a man's waist, or even worn as an amulet, or as an ivory bead (*daṭṭamayim*).

Jaina Text Aṅgavijjā

The *Aṅgavijjā*, datable to the 4th-5th century A. D.,⁷ is a curious work on prognostication and gives some stereotype information on ivory, conch-shell, etc. It classifies the materials for making ornaments into three classes, namely, those obtained from living things (*pāṇajonigataṃ*), from metals, and from roots, etc. Under the first division are placed ornaments made of conch-shell, pearls, ivory (*daṭṭamayam*), buffalo-horn and hair.⁸ Implements and objects of art were also made of pearls, conch-shell, buffalo-horn, ivory, bone (*aṭṭhikamayam*) and hair.⁹ The text also mentions in the list of seats (*āsana*) one made of ivory (*daṭṭāsana*).¹⁰ The decorative value of ivory was clearly realized and the *Aṅgavijjā* speaks of a palace apartment decorated with ivory inlay (*daṭṭagriha*).¹¹

Harṣacarita

Bāṇa, associated with the court of King Harsavardhana of Kannauj, had a very keen eye, as evidenced in his graphic descriptions. The *Harṣacarita* speaks of ivory caskets as "*daṭṭaśapharuka*." It is said that attendants carried small ivory caskets containing arecanuts whitened with sandal paste and the filaments of catechu perfumed with mango oil¹² at the birth ceremonies of Harṣa. It was a cylindrical box of the same shape as the modern *phaiṇū* made of wood.¹³

¹ *Brhatsaṃhitā*, 94.7 "Śuklaḥ samah sugandhūḥ snigdhaścha śubhāvaho bhavechchhed it. galauamlānaphalāni chadaṭṭasya samāni bhāṅgaḥ".

² *Ibid.*, 94.8. "Mūlamadhyadaśanāgrasaṃsthitā daṭṭadantya, manuṣāḥ kramāntataḥ sphūṇamadhyaḥ pṛṣṭavāṇi-phalāni śīghra madhyachirakāla sambhavaṇi".

³ *Ibid.*, 79.20. "Daṭṭasya mūlaparidhūm dvirāyataṇi prajāṭva kalpayecchreṣaṇi. adhikānanūpacharāṇāṇyūṇam gūṇchāvināni kuchit".

⁴ *Ibid.*, 79.19. "Gajadantaṇi sarveṣāṇi proktatarūṇāṇi praśasyate yoge. Kāryaḥkārā vidhirgajadantaṇa praśastena.

⁵ Maurice Bloomfield (ed.), *Kauśika sūtra*, XIII, 1-3.

"Hastvarchasamirī hastmam (1) Hastulantaṇi badhmātī (2) Lomāni jatunā sandhya jātam ūpenupidhāpva." (2)

⁶ Moti Chandra, "Nidhiśringa", *Bulletin of the P.O. A. S.*, No. 9, p. 9.

⁷ Moti Chandra, p. 10.

⁸ Puṇyavijayajī (ed.), *Aṅgavijjā*, p. 112.

⁹ *Ibid.*, p. 221.

¹⁰ *Ibid.*, p. 15.

¹¹ *Ibid.*, p. 136.

¹² V. S. Agrawal, *Harṣacarita—Ek. Śāṅkṣīṭika Adhyāyana* (Hindi), p. 66.

¹³ *Ibid.*, p. 85.

Ivory ear-rings (*daṭṭapatra*), circular in shape and painted blue, were usually worn by women of position.¹ The book also refers to ivory ear-rings inlaid with pearls obtained from the forehead of sea elephants.² These were received by Harṣa as presents from Assam. It would appear that the ear-rings were inlaid or decorated with amber or walrus ivory imported from Siberia.³

Describing Harṣa's court, Bāṇa says that "he was sitting on a throne made of a stone clear like pearl, washed with sandal-wood water, and bright as the moon with its feet of ivory and its surface cool to the touch like snow-water."⁴ It is interesting to note that Harṣa's throne had legs of ivory.

Ivory throne-legs made in Orissa have been found in good numbers⁵ at different places. Although the ivory legs, discovered so far, belong to a later period, i.e. 13th to the 17th century A.D., Bāṇa's mention of their being used in king Harṣa's furniture supports the view that such ivory fixtures were in fashion even at that time. Thus, this use of ivory must have been long in practice before the 13th century.

Bāṇa speaks of crocodile-mouthed conduits of ivory used in pleasure ponds.⁶ While describing the royal bed chamber Bāṇa mentions golden female figures holding ivory boxes⁷. Such boxes were perhaps used for keeping sandal-hued arecanuts for royal use.

Ivory was also used for architectural embellishment; the columns of the royal apartment were inlaid with ivory.⁸ Obviously, these columns must have been wooden, admitting of ivory inlay.

Kādambarī

Another work by Bāṇa is *Kādambarī*, which, too, mentions many uses of ivory. It is said that the Śābaras (a jungle tribe) hunted elephants for ivory.⁹ While describing the Devi's temple in the Vindhya the word "*daṭṭa kupāṭa*" in the compound "*vaṇadviradadaṭṭakapāṭena parivṛtita*" has usually been translated as an ivory door.¹⁰ V.S. Agrawal, however, rightly takes it to be a palisade made of elephant tusks put close together¹¹ and this should go very well with the Śābaras who were not given to any kind of sophisticated art, but whose profession demanded killing of elephants for ivory, which they might have arranged as a palisade in honour of their tutelary goddess. It is further said that elephant tusks (*nāga daṭṭa*) and white "chauris" were hung on walls in the Śābaras' houses.¹²

The use of ivory ear-ornaments was so common that even a *chāṇḍālakanyā* was wearing them when she went to sell a parrot to king Śūdraka.¹³ On another occasion, when Prince Chandrāpīḍa was coming home after completing his education, we find a gathering of ladies teasing each other, and one of them asking another to pick her ear-ornament which has fallen down.¹⁴

Ivory carving held such an important position at the time that learning it formed part of a prince's education.¹⁵

Bāṇa tells us in his *Kādambarī* that royal *vīṇās* (a musical instrument) were decorated with ivory work. Further, we are told that small ivory pavilions (*daṭṭavalabhikā*) were placed in plantain groves,¹⁶ and one of these, placed in the temple of Kāma, was painted red.¹⁷

¹ V.S. Agrawal, *Harṣacarita—Ek Saṁskṛitika Adhyāyana*, p. 24.

² *Ibid.*, p. 170.

³ Moti Chandra, p. 6.

⁴ Cowell and Thomas (ed.), *The Harṣacarita of Bāṇa*, p. 56.

⁵ V. P. Dvivedi, "Ivoires Indiens", *Arts Asiatiques*, XVI, pp. 59-67.

⁶ *Śaṁtanavarnakaramukhamahāṣṭayāla*

⁷ Cowell and Thomas (ed.), *The Harṣacarita of Bāṇa*, p. 131.

⁸ V.S. Agrawal, *Harṣacarita—Ek Saṁskṛitika Adhyāyana*, p. 214.

⁹ V.S. Agrawal, *Kādambarī—Ek Saṁskṛitika Adhyāyana*, p. 49.

¹⁰ *Ibid.*, p. 225.

¹¹ *Ibid.*

¹² Ramtej Sastri Pandeya (commentator), *Kādambarī*, pp. 109-110.

¹³ *Ibid.*, p. 20.

¹⁴ *Ibid.*, p. 177-178.

¹⁵ *Ibid.*, p. 16.

¹⁶ V.S. Agrawal, op. cit., p. 61.

¹⁷ *Ibid.*, p. 188.

Śiśupālavadha

The *Śiśupālavadha* of Māgha also mentions ivory ear ornaments, which reminds us of a similar reference in Kālidāsa's *Raghuvamśa*.¹ It states that one of the tusks of the elephant-headed Vināyaka was pulled out by the proud Rāvana for preparing ivory-seroll ear-ornaments for his playful damsels, and that a new tusk has not yet grown in its place.² The tusks of living elephants were usually pruned, and grew again and again.

Kuṭṭanīmatam

The *Kuṭṭanīmatam* of Damodaragupta (8th century A.D.) informs us that Chintāmaṇi, the son of an officer, wore in his ear pendulous ivory ornament (*daṇṭapūṅkti*), which had a sword-like (*karpatāka*) end.³ It is quite interesting to learn that men also wore ear-ornaments made of ivory. However, unlike the women's man's ear-ornament was shaped like a sword.

Daśopadeśa

Kshemendra in his *Daśopadeśa*⁴ refers to ivory figures. In a double entendre he asserts that the wealth of a miser lives in his dirty teeth and blanket browned with smoke, in the same way as the goddess Śrī of the untouchable *chāṇḍāla* lives in the figure of dirty ivory (*daṇṭeṣu malapūrṇeṣu*) wrapped in blankets. Dirty ivory here might mean figures of bone which must have been readily available to the *chāṇḍālas*, and which would get dirty readily owing to their more porous composition.

Jaina Canonical Literature

It may seem strange, but Jaina canonical literature also yields interesting information about ivory in spite of the Jain adherence to non-violence. At one place, however, traffic in ivory is condemned.⁵ But on the other hand, the professions of conch shell-cutters (*śaṅkhakāra*) and ivory carvers (*daṇṭakāra*) are classed among noble professions (*śilpātīya*).⁶ The ivory trade is said to have been in the hands of the Tanākana Mlecchhas from northern India, who brought gold and ivory for sale to South India. It seems that items made of ivory fetched a good price. The traders covered their heaped goods with their hands, and refused to uncover them till they were satisfied with the price offered.⁷ According to these texts, trade in ivory (*daṇṭa-āṇijya*) was a recognised industry, and money was advanced to the Pulindas for killing elephants and bringing their tusks⁸ for ivory workmanship. Images made of ivory were well known.⁹

Ivory and conch-shell were costly materials, and were apparently taxed heavily. Merchants did not follow the recognised routes in order to escape the heavy duties and took to circuitous ways instead.¹⁰ That conch-shell and ivory were valuable articles is further clear from the fact that they were counted among the twenty-four jewels.¹¹

Vessels made of ivory (*daṇṭa*), horn (*śrīṅga*) and conch-shell (*śankha*) were used extensively, but they were prohibited articles to Jaina monks even if ivory or a conch-shell was used only as inlay (*bandhagāṇi*).¹² Houses having female figures of wood, plaster, ivory (*daṇṭa*), stone and terracotta, or painted female figures, were taboo for Jaina monks. In this connection it has been further observed that the Yavanas were great artists in these materials.¹³

Ivory was also used for making necklaces.¹⁴ And necklaces made of monkey's bones were put around the necks of children to save them from evil spirits.

¹ See page 22

² *Śiśupālavadha*, I, 60. "Vilāsinībhrāmadaṇṭapūṅktiṃ vidhi-
tśivā nīnamanena māninaṃ Na jānu vaināyaka mekamadrutaṃ
viśānamadyāpi punaḥ prarohati"

³ Allrīdeva Vidyālaṅkar (tr.), *Kuṭṭanīmatam* V, 62.

⁴ M. Kaula (ed.), *Daśopadeśa* II, 30.

⁵ H.A.J. Hoernle, *Uṣāgadasa*, p. 51.

⁶ Bhagwandas Harshachand, *Prajñāpāna sūtra*, I, 70

⁷ *Avatīyaka Chūyaṇi*, Pīva Bhāga, p. 120 and also *Avatīyaka
Tīkā*, p. 99.

⁸ *Ibid.*, p. 829.

⁹ *Bṛhatkalpa (Bhāṣya)*, I, 2469.

¹⁰ Bechardas, (ed.) *Rājapavaniya Sūtra*, p. 305.

¹¹ Amarchandajī and Kanhaiyatalji, *Nīlīhasūtram*, (eds.),
Pt. II, *Śloka* 1023, p. 109.

¹² *Ibid.*, Part III, *Śloka* 4-6, p. 11.

¹³ *Bṛhat Kalpasūtra Bhāṣya*, V, 4915.

¹⁴ *Nīlīha chūṇi*, cf. J. C. Jain, *Life in Ancient India as
Depicted in the Jaina Canons*, p. 100.

Śṛīgāraṇaṅgarī Kathā

The *Śṛīgāraṇaṅgarī Kathā* of Śrī Bhojadeva mentions an ivory balcony (*daṇṭa valablī*),¹ which probably means a wooden balcony with profuse ivory inlay. He refers to persons seated in the balcony which obviously could not have been made of pure ivory, but might have had lavish ivory inlay.

Mānasāra

The *Mānasāra* enjoins that couches should be decorated with lotus petal carvings (*padmapatrādi-chitraiśca*) and other ornaments. They should further be provided with low railings (*kshudravedikā*) and floral knobs made of ivory (*daṇṭajani*)² or wood.

Vāmana Purāṇa

Vāmana Purāṇa mentions of a house of Lord Śiva which was built by Visvakarmā having an arched gateway of ivory with ledges.³

Mānasollāsa

The *Mānasollāsa* of king Someśvara, an encyclopaedic work of the 12th century A.D., also provides some interesting information about ivory's use in ornamentation and decoration of furniture, etc. It prescribes capital punishment for any person who killed an elephant, which means that the animal was protected by the state. If, however, an elephant died a natural death, its tusks were to be brought to the king,⁴ a regulation also prescribed earlier by Kauṭilya in his *Arthaśāstra*.⁵

Ivory was extensively used in the manufacture of furniture. A chair called *pṛṣṭhā-dhārāsana* is described as follows: "It is made of teak wood and decorated with ivory (*daṇṭidaṇṭasucitritam*)". It has many shapes and colours and is provided with a back and four legs. It is roomy, one and a half cubit wide and not very high.⁶

Among the eight kinds of benches (*mañcha*) one is made of ivory (*daṇṭāṅghri*),⁷ and is described thus: "Its four legs are entirely made of ivory (*dvipadaṇṭakṛitail*), and all of its parts are also made of ivory".⁸ Unlike other references where ivory inlay is implied, here is a piece of furniture made entirely of ivory. Ivory throne legs from Orissa will thus fall under the *daṇṭāṅghri* class.

Another category of furniture, *Dolāyāna* or *Dolī*, described as having one pole only, was made of ivory (*daṇṭidantavālmāyam*) and inlaid with precious stones and gold.⁹ Umbrellas, insignia of royalty, had bejewelled golden covers and ivory handles (*daṇṭidaṇḍa*), which were also inlaid with gold gems.¹⁰

According to *Mānasollāsa*, ivory was also being used in architecture. It prescribes a balcony made of ivory for the royal palace.¹¹ The balcony, as we have seen above, would have ivory inlay in wood, instead of being made entirely of ivory.

Among the articles of personal use we learn of ivory *pādūkās* (sandals)¹² inlaid with gold. The fact that delicate items, such as anklets,¹³ were also being made of well polished ivory, hints at the height of technical achievements attained by the ivory-carvers of the 12th century A.D.

Greek and Latin Literature

There are stray references to Indian ivory in Greek and Latin literature. For instance, minor articles of ivory such as ear-rings and pricks attached to a leather thong for riding are mentioned in the *Indica*.¹⁴ Virgil¹⁵ also refers to Indian ivory and praises its purity of colour.

¹ Kalpalata K. Munshi, *Śṛīgāraṇaṅgarī Kathā*, p. 46.

² P. K. Acharya, *Mānasāra*, XLIV, 25-26.

³ *Vāmana Purāṇa* 54, 2-3; "daṇṭa toraṇa nirvyāha."

⁴ G. K. Shrigondekar, *Mānasollāsa* of Someśvara, (ed.), Vol. I, 3, 180.

⁵ See Page 20.

⁶ G. K. Shrigondekar, *op cit.*, II, 1144.

⁷ *Ibid.*, 1672.

⁸ *Ibid.*, 1683-1684.

⁹ *Ibid.*, II, 1642.

¹⁰ *Ibid.*, II, 1669.

¹¹ *Ibid.*, 126. *Daṇṭidaṇṭasucitritam* *mañchanā* *śobhite*.

¹² "Gajadaṇṭasamubhūta". An ivory sandal datable to Pala period (9th-10th century A.D.) is displayed in Nalanda Museum (No. 32.2953).

¹³ *Ibid.*, 1121.

¹⁴ J. W. McCrindle (tr.), *Indica* p. 220-221

¹⁵ *Georgic* i, 57, *Aenis* XII.

The Periplus of the Erythraean Sea

This ancient voyaging account is supposed to have been written in the 1st century A.D.,¹ and supplies interesting information on trade in ivory. It seems that Indian ivory was reaching Rome both by land and sea routes. The chief centre of trade in African ivory was Adulis. Indian ivory was exported from Barygaza (modern Broach).² Dosarana or Orissa exported the ivory known as Dosarane.³ This shows that the Orissan ivory had distinguishing qualities, which entitled it to a separate name, a fact confirmed by later discoveries.⁴ Similarly the fact that ivory carvings were exported from Barygaza would lend weight to the assumption that those carvings were produced in western India—Malwa, Ter, etc. These places are known as centres of ivory carvings also from other sources, one of which is the Sāñehī inscription mentioned earlier. Another region from which ivory export is mentioned by the *Periplus* is the Malabar coast, still famous for its ivory carvings.⁵

Arabian and Chinese Literature

Arabian and Chinese sources tell us about India's trade in ivory with these countries. Abū Zayd (9th century A.D.) explains why the Arab ships returned to Indica from Jidda instead of proceeding to Egypt by the Red Sea, and points to the valuable Indian trade in pearls, ivory, precious stones, fragrant woods and spices.⁶ Ibn Khurdadbeh (9th century A.D.) includes ivory in his list of articles exported from India to Iraq.⁷ *Hudūd-al-Ālam*,⁸ another Arabic text, refers to conches and ivory exported from Orissa. A Chinese work, *Chü-fan-Chi*,⁹ throws light on the ivory trade between India and China carried through the Arab intermediaries in the 12th and 13th centuries. It tells us that Kambuja¹⁰, Palembang,¹¹ the Malaya Peninsula,¹² Lankasuk (Kedah),¹³ Borneo,¹⁴ Java¹⁵ and Coromandat,¹⁶ all either produced or exported ivory.

¹ W.H. Schoff (tr.), *The Periplus of the Erythraean Sea*, p. 15.

² *Ibid.*, 49.

³ *Ibid.*, 62.

⁴ V.P. Dwivedi, "Ivoires Indiens", *Arts Asiatique*, XVI, pp. 59-67.

⁵ M.K. Devassy, *Selected crafts of Kerala*, chapter on ivory carvings.

⁶ Moti Chandra, p. 13.

⁷ Suleyman Nadvi, *Arab aur Bhārat ke Sambandha*, pp. 42-46.

⁸ V. Minorsky, *Hudūd-al-Ālam*, p. 86ff.

⁹ Chao-ju-kua, *Chu-fanchi*, translation by Hirth, F. and Rockhill, W.W.

¹⁰ *Ibid.*, p. 53.

¹¹ *Ibid.*, p. 61.

¹² *Ibid.*, p. 67.

¹³ *Ibid.*, p. 68-69.

¹⁴ *Ibid.*, p. 156.

¹⁵ *Ibid.*, p. 78.

¹⁶ *Ibid.*, p. 96.

The Harappan Bone And Ivory Carvings

Introduction

The discovery and excavations of Harappa and Mohenjo-daro in the 1920s pushed back the antiquity of Indian civilization and brought to light what has been described as the "Indus Valley Civilization". It was so named because the first two sites discovered were situated in the Indus Valley. However, most of the scholars prefer to call it "Harappan Culture", because that is the first known site of this civilization. Post-independence researches have shown that the extent of this civilization was much larger than the Indus Valley. "The area enclosed by a line joining the outermost sites at which the material culture of this civilization has been discovered is little less than half a million square miles"¹. More than seventy sites have been located,² but only a few of these have been excavated so far. Most of these are situated on the plains of the Indus and its tributaries or on the dry course of the river Saraswati or Ghaggar. To the east of the Indus, the most impressive discovery has been that of Lothal (Gujarat) on the gulf of Cambay. The Southern extent is marked by Bhagatrav on the mouth of the Narbada river³. Towards the north-east Alamgirpur, between the Ganga and Jamuna, marks the present known extent.

Important sites

Besides the famous sites of Harappa, Mohenjo-daro, Amri and Chanhudaro, recent important excavations have been carried out at Rupar in Punjab,⁴ Lothal in Gujarat,⁵ Rojdi in Saurashtra,⁶ Desalpur in Cutch,⁷ Alamgirpur in Uttar Pradesh,⁸ and Kalibangan in Rajasthan.⁹ At the last named site, seven seasons of excavations have established that the site was occupied even before the appearance of the Harappan Culture. Thus the site not only throws light on the origin of the Harappa Culture, but also pushes back in point of time the beginning of Indian protohistory.¹⁰

Date

The total time span of this culture ranges between 2300 and 1750 B.C.¹¹ according to the latest radio carbon method.

¹ Bridget and Raymond Allchin, *The Birth of Indian Civilization*, p. 127.

² *Ibid.*

³ *Ibid.*

⁴ *J.A.R.*, 1953-4.

⁵ *J.A.R.*, 1954-5, 1955-6, 1956-7, 1957-8, 1958-9.

⁶ *J.A.R.*, 1957-58, 1958-9, 1962-3.

⁷ *J.A.R.*, 1963-4.

⁸ *J.A.R.*, 1958-9.

⁹ *J.A.R.*, 1960-61, 1961-62, 1962-63, 1963-64, 1964-65.

¹⁰ B.B. Lal, and B.K. Thapar, "Excavations at Kalibangan", *Cultural Forum*, IX, No. 4, p. 80.

¹¹ D.P. Agrawal, "Harappan chronology : a re-examination of the evidence", *Studies in Prehistory*, pp. 139-148.

The Society

Although the script of the Harappans remains undeciphered, much has been learnt about them from excavations and recent researches. The most surprising factor emerging from these excavations is the cultural uniformity of the civilization throughout the several centuries of its life span over the vast area it occupied. There is a remarkable standardization of the sizes of both burnt and unburnt mud-bricks. The sites so far excavated clearly show their developed and uniform town-planning. The care expended on domestic bathrooms, drains and soakage, etc. surprises even the modern municipal authorities. Nowhere in antiquity had so high a degree of civic prosperity been reached at such an early date. Nowhere in antiquity has life appeared so ordered and secure.¹

Agriculture was the mainstay of the Harappan economy and wheat and barley were the main crops.² The discovery of the great granary at Harappa³ clearly points to the surplus production of food-grains. And the surplus, thus produced, must have led to the development of specialized crafts, because the society could now support the artists in exchange for their skilled services.

They developed all sorts of copper and bronze tools, but also continued to use chert-blades. They even had a true saw which does not appear elsewhere till the Iron Age⁴. All these achievements clearly show that the Harappan technology deserves Childe's acclaim as 'technically the peer of the rest', that is of the contemporary civilizations of Egypt, Babylonia, etc.

The occurrence of several Indus type seals at Ur, Kish, Susa and Lagash is a well known fact. The terracotta sealings from Lothal bearing impressions of packing material on their back clearly suggest a commercial use.⁵ Other evidences from Lothal suggest its contact with West Asia. Ivory, chalk, shell, beads of gem stones and cotton or cotton goods were probably exported from Lothal.⁶

From the remains of this civilization it is clear that its wealth, the social surplus necessary to support the administration and specialized craftsmen of all kinds, was in well organised agriculture.

The above mentioned circumstances clearly reveal an enlightened society which produced and patronised ivory and bone carvings besides many other arts and crafts.⁷

Availability of the raw-material—tusks and bones

The elephant is the source of ivory, whose presence at the Indus Valley and other Harappan sites is well-attested by the seals, terracotta figurines and skeletal remains.⁸ It occurs on thirty steatite seals and copper tablets from Mohenjo-daro,⁹ six seals from Harappa,¹⁰ and several others from other sites of this culture.¹¹

There are two views about the presence of the elephant in the Indus Valley. The first group of scholars believed that the climatic conditions of the Indus region are not materially different today from those of the past.¹² And this is a well known fact that the present conditions are not favourable to the elephants' habitat. These scholars believe that 'the extent of the Indus civilization makes the importation of these animals (elephants, etc.) from its periphery a perfectly reasonable possibility.'¹³ However, they do not suggest any particular region from where this importation could have taken place.

¹ R.F.S. Starr, *Indus Valley Painted Pottery*, p. 6.

² John Marshall, *Mohenjo-daro and the Indus Civilization*, I, p. 27.

³ M.S. Vats, *Excavations at Harappa*, I, p. 15.

⁴ *Mohenjo-daro*, II, p. 501.

⁵ S.R. Rao, "Lothal and West Asia", *International Conference on Asian Archaeology, Summaries of papers*, p. 45.

⁶ *Ibid.*

⁷ *Mohenjo-daro*, I., pp. 27-47.

⁸ M. Wheeler, *The Indus Civilization*, p. 65.

⁹ *Mohenjo-daro*, III. cxv and cxvii and Mackay, II., pl. LXXXIV to LXXXVII, XCVII & XCVIX.

¹⁰ *Harappa*, II, pl. XCI.

¹¹ For two seals showing elephants excavated from Kalibangan, see *J. A. R.*, 1960-61, pl. XLVIII, B.

¹² R. L. Raikes, and R. H. Dyson, Jr., "The prehistoric climate of Baluchistan and the Indus Valley", *American Anthropologist*, 63, No. 2, Part, I, p. 276.

¹³ *Ibid.*

One of these scholars describes the Indus region as 'a semi-arid savannah grass land'¹ which would, however, be ideal for the elephant. The elephant likes land full of grass and without many trees. The occurrence of a femur of an elephant in the basin of the dock confirms that elephants lived around Lothal.²

The other group of scholars believes that the elephant was not only found in the Indus Valley but it was tamed by the Harappans.³ According to them the domestication of the animal at this early stage is attested at least by the six out of the fifteen Mohenjo-daro seals which distinctly depict it with covering cloth or wrapping.⁴ Harappans' close acquaintance with the elephant is further strengthened by the fact that the seals show "the two breeds recognised to-day in India, the Kamoomia Dhundia with its flat back, square head and stout legs, and the inferior Meergha, less heavily built and with a sloping back".⁵ Such close observation and depiction is possible only when the animal can be watched from close quarters and clearly points to domestication of elephant by the Harappans. "The docility, intelligence, and easy obedience of the elephant must have quickly led to its domestication, once it was known and captured."⁶

Another point to note is that most of these representations show elephants with tusks. Two actual specimens of tusks were also excavated from a burial pit at Mohenjo-daro.⁷ A similar discovery of a tusk was made at Chanhu-daro.⁸ Finds of these tusks and many other items made from ivory make it clear that ivory was readily available in the Indus region and hence bone seems to have taken only a subordinate position.⁹

Though not as many items of bone as those of ivory have been found at the Harappan sites, there was no dearth of bones at these sites. All kinds of animals, from rhinoceros to mongoose, were known or domesticated by the Harappans¹⁰ and they must have had abundant supply of bones available for carving. Bones of birds were also employed for preparing smaller items of utilitarian value.¹¹

Technical Know-how

An unfinished ivory plaque discovered at Mohenjodaro shows saw marks in both directions.¹² According to Mackay, this signified the great difficulty the ivory worker had in cutting the material, so that he worked towards the centre from all directions.¹³ This statement can be interpreted to mean that the Indus Valley ivory-worker either did not have proper tools for cutting the ivory, or lacked the knowledge to use them properly.¹⁴ The facts, however, reveal that this was not the case, and the Harappans were well equipped to carve ivory and bone. An elephant's tusk and a piece of ivory sawn from it were found in an ivory-workers' house of phase III in the acropolis at Lothal.¹⁵ Mound F of the Harappa excavations has also yielded two unfinished chunks of ivory.¹⁶

The use of a saw for cutting the straight lines of ivory dice is evident from the clean way in which these ivory pieces have been cut.¹⁷ The teeth of the ivory-combs discovered from Mohenjo-daro were cut with a saw,¹⁸ and show how skillfully the saw was used by the ivory-worker. Lathes were also being

¹ Vishnu Mitter, "Environmental background to the Neolithic-Chalcolithic complex in N.W. India", paper read at the Pains Seminar organised by the Indian Archaeological Society, Oct., 1969.

² S. R. Rao, "Further excavations at Lothal", *Lalit Kala*, no. 11, p. 23.

³ E. C. Jenner, *A History of Domesticated Animals*, p. 286.

⁴ *Ibid*.

⁵ S. Pigott, *Prehistoric India*, p. 157.

⁶ S. D. Singh, "The elephant and the Aryans", *The Journal of the Royal Asiatic Society of Great Britain and Ireland*, p. 1.

⁷ Mackay, I, p. 117.

⁸ E. J. H., Mackay, *Chanhu-Daro Excavations, 1935-36* (1943), p. 14.

⁹ Mackay, p. 579.

¹⁰ *Mohenjo-daro*, Vol. I, p. 29.

¹¹ Mackay (1943), *op. cit.*, p. 234.

¹² Mackay, p. 579.

¹³ *Ibid*.

¹⁴ Moti Chandra has interpreted this statement in the following way:

"He (Mackay) attributes this paucity of artistic ivory objects to the technical shortcomings of the craftsmen, a conclusion to which he was led from an unfinished plaque in which the saw marks are clearly visible in both directions". Moti Chandra, pp. 13-14.

¹⁵ S. R. Rao, "Further excavations at Lothal", *Lalit Kala*, no. 11, p. 23.

¹⁶ *Harappa*, I, p. 442.

¹⁷ Mackay, p. 560.

¹⁸ *Ibid.*, p. 541.

used for ivory carving as indicated by the smooth surface and rounded ends of some of the ivory batons found at Mohenjo-daro.¹ The criss-cross designs on the fish-shaped ivory-pieces could have been obtained by a thin chisel and by a skilled and steady hand only.² They were also using tubular drills for making circular markings upon the dice.³ The regularity with which the designs are executed on these pieces show the height of technical achievement of the Harappan ivory-worker.

Another example of the Harappan ivory artist's achievement can be seen in a piece which could either be the basal portion or top of a vase.⁴ It has a geometrical design of a circular motif in low relief, circle made of three petals round the projecting piece.⁵ The petals show traces of light red pigment with which they were inlaid and the contrast of this colour with the creamy surface of the ivory must have been very pleasing. Such refined design and colour-contrast clearly show that the artist was quite at home with ivory carving. In fact it was such a commonly used material that even model shrines were being made out of it.⁶

The above description clearly shows that the Harappan ivory-worker had the knowledge of necessary types of tools for ivory carving, and he was using these deftly for producing all sorts of items.

Ivory objects discovered from Harappan sites

1. Human and animal figures in ivory

(a) Ivory plaque showing a standing male figure⁷ (Pl. 12).

a) The plaque "represents the earliest attempt of man in India to carve a human figure in ivory".⁸ It measures 4.7cms × 2.63 cms and is 1 cm. thick. Unfortunately it is much decayed. The back of the plaque is flat and undecorated, except for the roughly scored lines at unequal distances, which, if this be a piece of inlay, would have served to key it in its place. On its obverse, the plaque shows a male figure facing left with hands on the hips.⁹ He has a prominent nose and elongated eyes, like the eyes of some of the stone statues. He wears only a short loin-cloth. The head-dress, described as a 'close fitting cap with plumes' by Marshall,¹⁰ appears to be a wig. It could even be combed hair. A lance-like pointed object visible above his left shoulder may only be a flake scar because its lower end is nowhere to be seen, and the hands of the human figure are free. In front of the figure is a circular device, which may once have contained an inscription. In some places, the ivory shows evidence of being sawn into shape. The tool used was probably a narrow chisel.

The carving of the figure is exceedingly rough and no attempt seems to have been made to round the limbs. However, the conical limbs portray him with vigour and the position of the legs shows him ready to walk or run. Although in low relief, the figure portrays the human figure in balanced proportions.

(b) Ivory deer

Another figure which depicts an animal¹¹ is more important than the human figure from the point of view of art, as it is the only figure in ivory carved in the round belonging to such an early period. The figure portrays the animal in a naturalistic posture. Marshall has identified it as an ibex,¹² but with its raised head and partly open mouth it looks more like a deer. The 'circle and dot' motif which depicts the eye, is marked also on its body, which is covered with

¹ Mackay, p. 432-33.

² *Ibid.*, p. 557.

³ *Mohenjo-daro*, p. 556.

⁴ Mackay, p. 324.

⁵ This motif is very commonly found on Harappan pottery.

⁶ Mackay, p. 564-65

⁷ *Mohenjo-daro*, II, p. 562; III, pl. CXXXII/10.

⁸ Moti Chandra, p. 14.

⁹ The human figures amongst the pictographs on the seals of the Indus Valley stand with their arms on hips.

¹⁰ *Mohenjo-daro*, p. 562.

¹¹ Antiquity No. VS 2041

¹² *Mohenjo-daro*, II, p. 531 and III, pl. CLVIII, No. 1.

incised dash marks. It is 3.3 cms high. Marshall's suggestion that it was a hair-pin-top¹ is hardly convincing. The usual height of hair-pins found from Harappan sites is 5 cms. only, and a 5 cms. pin cannot have a 3.3 cms. top. Moreover, its broken bottom shows that it is the top of something different.

2. Combs

Ivory combs seem to have caught the fancy of man at a very early stage of human civilization.² The use of ivory for making combs was in fact very common. Speaking about Egyptian objects of daily use, Flinders Petrie says that "a comb was always cut in bone or ivory".³ Almost every Harappan site has yielded at least one or two combs.⁴ It maintained its popularity in later periods also, and has been excavated from most of the later sites. An even more surprising fact is that there is hardly any change in its shape from the Indus Valley days till to-day. Being an item of toilet it always received a careful artistic treatment. The etched spot and circular motif is commonly found on Harappan combs (Pl. 13).⁵ It is interesting to note that this motif occurs on Egyptian combs also.⁶ It is quite probable that sometimes the comb was actually worn in hair, as an ivory comb has been found quite close to the skull of a woman at Mohenjo-daro.⁷ The most interesting comb out of the lot discovered at Mohenjo-daro is the one shaped like a V.⁸ It is 4.9 cms. in length, 1.7 cms in width and 0.5 cm. in thickness, but not quite perfect. There being a small slip missing from the edge opposite to the teeth, which indicates that originally it was wider than it is now. It seems to have been very carefully made, the teeth being cut with a saw. Their roundness and polish suggest that the comb was in actual use for a considerable time.⁹ Whether this was worn in the hair is difficult to say. "Judging from its shape and fineness of the teeth, it may have been used to remove vermin from long, lanky hair."¹⁰ Or else, it may have been used to fasten a single lock in place.

Other finds are of the usual rectangular or square shape and have incised concentric circles on both sides.¹¹ The saw with which the teeth were made appears to have had a blade of 0.05 cm thickness.¹² At least one of these finds¹³ resembled in shape the combs that are sometimes represented on the Mohenjo-daro pottery.¹⁴

3. Hair-pins

The attractive hair-do of the Mohenjo-daro bronze dancing girl¹⁵ makes it evident that women of those days were fond of arranging their hair stylishly. That not women alone but men also used hair-pins, is proved by a sculptured head pictured in pl. XCIX, 6 of Marshall's volume III on Mohenjo-daro. The hair-pin carved on the head has a short-shaft and a plain round head. In ancient Sumer also, men as well as women were accustomed to use these articles¹⁶

It is quite likely that the Harappans were using hair-pins mostly made of ivory to keep their hair in order. Such pins have been found in excavations from various Harappan sites. Mohenjo-daro alone has yielded twelve such pins¹⁷ whose shape and size suggest that these must have been used as hair-pins. Some of these are surmounted by birds¹⁸ or animals¹⁹ and have grooves round the top to ensure that pins

¹ Mohenjo-daro II, p. 531

² Comb was a popular motif found on Harappan pottery. Cf. Irene N. Gajjar, *Ancient Indian Art and the West*, pp. 18-19.

³ Flinders Petrie, *Objects of Daily Use*, p. 25.

⁴ Mohenjo-daro has yielded five, Harappa two Chanhudaro one, and Kalibangan one.

⁵ Harappa, I, p. 459.

⁶ F. Petrie, *op. cit.*, p. 26.

⁷ Mackay, p. 116; see also V. P. Dwivedi, 'Life depicted in ancient Indian ivory carvings', *Journal of Indian History*, I, Pt. III, p. 464.

⁸ Mackay, I, p. 541; II, pl. No. 25 (DK. 12769).

⁹ The fact that such V-shaped combs are still used by Sikhs, who wear them in their hair as part of religious

sanction, make this comb's discovery even more interesting.

¹⁰ Mackay, I, p. 541.

¹¹ *Ibid.*, I, p. 542.

¹² *Ibid.*

¹³ *Ibid.*, No. DK 10787.

¹⁴ *Ibid.*, I, pl. LXVIII, no. 22.

¹⁵ Mohenjo-daro, III, pl. XCIV, no. 6, 7 & 8.

¹⁶ *Ibid.*, II, p. 531.

¹⁷ Mackay, I, p. 538-40.

¹⁸ *Ibid.*, pl. CX, nos. 54-57. It is interesting to observe that early Egyptian ivory hair pins down to the dynastic period generally bear the figure of a bird on the top. F. Petrie, *op. cit.*, p. 24.

¹⁹ *Ibid.*, pl., XCI, no. 27.

do not slip away from the hair (Pl. 14), which shows how meticulous the Harappan artists were. Sometimes the patterns incised on the wider parts of their shanks were filled in with black pigment¹ perhaps to match the colour of the hair.

Usually these were of about 5 cms length, but one of these measured 11 cms². Their polish shows that these were considerably used before getting buried.

A small duck-headed pin-top found at Harappa has been wrongly identified as kohl-stick top by Vats.³ Kohl-sticks usually taper a little at both ends, a fact which is absent in this piece and hence it is quite likely to be a hair-pin top. Its lower part is missing and the existing length is 3.62 cms.

4. *Kohl-sticks*

The Harappans seem to have been using kohl also, as is evident from the discovery of kohl-sticks at Harappa⁴ and Lothal⁵. Generally these are cylindrical,⁶ but one of the finds is rectangular in section,⁷ which is quite unusual. The rectangular kohl-stick is 7cms long and somewhat rounded at the ends, one end being considerably thicker than the other. In most of the cases, they taper a little at both ends, which are fairly thick and rounded, but sometimes only one end is finished, the other being left rough.

5. *Ivory fish*

"No definite conclusion can yet be found as to the use of these little flat models of fish".⁸ They are roughly shaped and bear criss-cross markings similar to those found on actual fish (Pl. 15). The incised marks had been filled in with red and black pigments⁹ and in one example with pigment which is now light yellow.¹⁰ Yet another example shows traces of white pigment.¹¹ Their eyes are also incised. These are about 7.5cms long, about 1.2cms wide, and about 1.2cms thick. All these show a polish which comes only from constant use. Markings on these fishes are the same on both sides.

The fact that these fish have been dug out from Mohenjo-daro alone and from no other Harappan site is very interesting and significant. It would thus appear that residents of Mohenjo-daro were more fond of fish than their counterparts. It is also possible that this fondness was because of some local religious ritual which involved use of ivory fish. As none of these are perforated, they could not have been used as amulets. Their high polish shows that they had been much handled. This precludes their having been once enclosed in wrapping and then used as amulets. Marshall says that similar ivory fish, perhaps used as food-offerings, have been found in a royal burial at Nagdeh in Egypt.¹² But it cannot be suggested that the Harappan fish had also a similar purpose, because they have not been excavated from graves.

The fish was sacred among the Babylonians, Phoenicians and Assyrians, and seems to have been regarded as an emblem of fecundity.¹³ Another view is that it was the symbol of knowledge, presumably because the fish were able to explore the uttermost depths of the sea.¹⁴ In Egypt, a fish-shaped mirror handle, made of ebony, had been dug out.¹⁵ Mackay's suggestion that "they were part of some game"¹⁶ seems quite plausible. But it is more likely that these fish-models were used for ritualistic purposes.¹⁷

¹ Mackay, p. 540.

² *Ibid.*, p. 538.

³ *Harappa*, I, p. 459.

⁴ *Ibid.*

⁵ S. R. Rao, "Further excavations at Lothal", *Lalit Kala*, No. 11 (April, 1962), p. 23.

⁶ *Harappa*, pl. CXIX, nos. 15 and 16.

⁷ *Ibid.*, pl. CXIX, no. 1.

⁸ Mackay, p. 564.

⁹ *Ibid.* p. 564.

¹⁰ *Ibid.*

¹¹ *Mohenjo-daro*, II, p. 557.

¹² *Ibid.*

¹³ H. Bayley, *The Lost Language of Symbolism*, II, p. 83.

¹⁴ *Ibid.*, p. 83.

¹⁵ F. Petrie, *op. cit.*, pl. XXVII, no. 21.

¹⁶ Mackay, I, p. 574.

¹⁷ Irene N. Gajjar, *Ancient Indian Art and the West*, p. 24.

6 Casting dice and gamesmen

A number of rectangular and cubical ivory pieces have been excavated from Mohenjo-daro¹ and Chanhu-daro.² They occur at all levels and some of them are exceptionally well made, but "in no case have two similarly marked dice of similar shape been found together."³ In modern dice, the sum of two opposite sides equals seven, which is not true in any of these dice. Generally these are numbered 1 opposite 2, 3 opposite 4, and 5 opposite 6, but there are variations⁴. In size, also, they vary considerably, ranging from 4.12 cms to 8.12 cms in length.⁵ Most of these show evidence of much handling—their edges are rounded and sides highly polished with use. In fact, constant handling and age has darkened most of them to a deep brown tint.

One of the square die⁶ has a rounded bluntly pointed end and it is possible that this die was twirled between the fingers before being thrown.

The use of the saw for cutting straight lines is evident from the clean way in which these ivory pieces have been cut. The circular markings on them were made with the help of a tubular drill.⁷ Care was taken to make the designs as regular as possible, and there is hardly any difference between the designs on the various sides of any one example, except in their proportions. Where a piece is very thin, the edges as a rule are undecorated.⁸ Mostly the ends were plain, but if there was sufficient space, even these were decorated with one or two circles that are usually concentric.⁹

The varied designs and markings on these dice are all lightly incised, and it seems from some of the more perfect examples that they were filled in with a black pigment to show the designs more clearly. On the basis of their shapes, these dice can be grouped as follows :

- (i) Cubical (ii) Tabular—(a) rectangular
- (b) triangular
- and (iii) peculiar shaped

(i) *Cubical dice* : The two cubical dice mentioned below have been excavated from Mohenjo-daro.

(a) In shape it is cubical like a die and measures 1.37cms.×1.2cms.×1.2cms. It has the same markings on all the six sides. The object might possibly have been a piece used on a game-board, for the similarity of its markings prevents its being used as a die.

(b) It measures 0.97 cms×2.12 cms×1.8 cms and is quite differently marked from the one above.¹¹ Three of its sides are marked with a circular device and the two opposite sides are blank. The remaining sixth side bears three pictographic signs, 'perhaps to mark a special move in a game'.¹² From its appearance it seems that the object was in constant use as it shows polish of much use. Its peculiarity is its inequality of shape, which must have led to certain sides appearing more frequently than the rest.

(ii) *Tabular dice* : These seem to be more commonly used than the cubical examples and have been found in abundance.

The tabular or flat dice can further be classified into two categories :

(a) *Rectangular dice*

- (i) One example has three circles on each one of three sides, one at each end and one in the middle. The further side has incised lines as decorations.¹³

¹ Mohenjo-daro, p. 556; Mackay, p. 559.

² Mackay, *op. cit.*, 1943, p. 171.

³ *Ibid.*, p. 560.

⁴ Mohenjo-daro, p. 559.

⁵ *Ibid.*, p. 556

⁶ Mackay, p. 261.

⁷ *Ibid.*, p. 556.

⁸ *Ibid.*, p. 556.

⁹ Mackay, p. 560.

¹⁰ Mackay, I, 556 ; No. C 2004 ; II, pl. CXXXII, No. 34.

¹¹ *Ibid.*, p. 559 ; No. DK 8906 ; II, pl. CXXXIX, no. 20.

¹² *Ibid.*

¹³ Mohenjo-daro, III, pl. CXXXII, no. 23 (V.S. 2529).

- (ii) Another is rectangular in section. One of its sides bears five simple circles, and the other three sides show two squares made by double slanting lines, each square having a circle with a dot inside.¹
- (iii) On still another three of its sides have the same pattern—two small circles alternated by one bigger circle, while the fourth is plain except for three longitudinal lines.²
- (b) *Triangular dice* : This type is quite common.³ Seven such pieces are known from Mohenjo-daro alone. Though each one has a different pattern the designs themselves are made with the help of lines and circles etched on the piece.

(iii) *Peculiar shaped dice*

One round die has been found at Mohenjodaro.⁴ Another piece which could be a die⁵ is shaped like a leg and measures 2.62cms long by 0.52cms thick. It cannot be a piece of inlay, as the same pattern is incised on both sides. The thin edges of this piece are marked by V-shaped lines which is quite unusual.

7. Ivory handles

The ivory was also used for making handles of various utilitarian objects, such as mirrors, knives, etc. Two such objects have been discovered at Mohenjo-daro and two at Harappa.

(i) It measures 5.37cms long by 0.162cms in diameter at its widest part. The upper portion of this specimen is missing, but the lower has a hole 0.62cms in diameter. The handle is well carved and shows a polish due to much handling.⁶

(ii) This is one of the finest example of the Harappan ivory (pl. 16). Shaped like a small vase, it has four rows of serpentine pattern separated by two or three lines.⁷ The precision with which the difficult zig-zag design has been executed on this handle shows the high water mark attained by the Harappan ivory carvers.

(iii) Its present height is 4.75cms and maximum diameter is 2.5cms. It is the end of a lathe-turned shaft with a flat base. The shaft is relieved with reel and bead motif. It could have been a handle for a copper mirror.⁸

(iv) It is a long-necked, oval-shaped handle, flat on the under-side, but otherwise rounded. The top has a hole 0.05cms in diameter, which tapers down to 1.25cms at the lower end.⁹

(v) S. R. Rao has mentioned an ivory handle of a gaming piece from Lothal.¹⁰

(vi) Although the example cannot strictly be classified as a handle, it could have served that purpose.¹¹ According to Mackay, it could have been fitted into a wooden box¹². It is 3.87cms long and its 1.25cms head has a hole of 0.32cms diameter. It is much polished by use. Another possibility is that a string was wound around two of these objects, one attached to the lid, and the other just below it to the side of a box, to keep it tightly closed.

8. Ivory vessels and unguent cup

Ivory was also used for making small vessels, fragments of which have been discovered at Mohenjo-daro and Harappa. The fragmentary piece from Harappa with a flat horizontal rim has been restored in plaster of paris and looks like part of an unguent cup.¹³ It is 6.25cms in diameter.

¹ *Ibid.*, III, pl. CXXXII, no. 27.

² *Ibid.*, III, pl. CXXXII, no. 45.

³ *Ibid.*, III, pl. CXXXII, nos. 22, 26, 27, 30, 35, 37 and 43.

⁴ *Ibid.*, III, pl. CXXXII, no. 44.

⁵ *Ibid.*, III, pl. CXXXII, no. 28 (V. S. 2548).

⁶ *Mohenjodaro*, No. V. S. 2651, III, pl. CXXXII, no. 15.

⁷ *Ibid.*, III, pl. CXXXII, no. 17.

⁸ *Harappa*, no. 9099, II, pl. CXIX, no. 10.

⁹ *Ibid.*, no. 11648, II, pl. CXIX, no. 11.

¹⁰ S. R., Rao, "Further excavations at Lothal", *Lalit Kala*, No. 11, p. 29.

¹¹ Mackay, no. DK 8630, II., pl. CIX, no. 3 and pl. CX, no. 14.

¹² *Ibid.*

¹³ *Harappa*, I., p. 459.

Another example discovered at Mohenjo-daro is either the basal portion or the top of a vase.¹ It is 5.65cms in diameter and 2.6cms high, and there is a stepped vertical hole through it, part of which is 0.35cms in diameter, and the other part 0.87cms. It has a geometrie design of circular motifs carefully carved in low relief, each circle being made by three petals on the broader surface of the object and by four petals round the projecting piece. The 'intersecting circle motif', as this motif has been labelled, is an Indus Valley hallmark and occurs frequently on pottery.² Such design occurs on Mesopotamian³ and Cretan⁴ pots also.

The technical excellence achieved by the Harappan artists working in ivory is further proved by the fact that most of these petals still show traces of the light red pigment with which they were inlaid. The contrast of this colour with the creamy surface of the ivory must have been very pleasing indeed. The polish of wear around its more prominent edge clearly shows that it was in use once upon a time.

9. Ivory batons

Five tapering ivory rods have been excavated at Mohenjo-daro during 1927 excavations.⁵ These were unknown before, and nothing like them has been excavated from any other Harappan site. Attractively shaped and ornamented, in all probability, they were turned on a lathe⁶ (Pl. 17).

There is hardly any variation in decoration although they vary in length, 9.5cms⁷ to 6.55⁸cms. Most of them show two bands—one at the top and the other at the bottom, of criss-cross pattern once filled with black. All these examples show signs of much use and one of them⁹ was so much handled that a band of decoration, similar to that below the head, has been partially worn out. Their top is usually flat, excepting an instance in which it is rounded.¹⁰

How were they actually used is not known. At one place Mackay has suggested that, "possibly it served as a pin for a cloak,"¹¹ but then he has himself admitted that their size is rather large and heavy for this purpose.¹² What could be their other use? Could these be royal sceptres? But their size is too small for this purpose. Besides, we know next to nothing about the Harappan royalty. The other possibility is that these were used by Harappan weavers for making cloth. But in that case these should not have been decorated at both ends. Their blunt and rounded point precludes any possibility of their being an instrument of war. The fragility of the material makes it evident that these could not have been used as fittings to some instrument.

Another use to which these could have been put to is as 'pestle'. *Śilappadhikāram*,¹³ a much later text from South India, mentions use of ivory pestle by the damsels of Vanji for pounding priceless pearls in sandalwood mortars, probably for medicinal use. It is quite possible that these batons had some such use during Harappan times. Nothing can, therefore, be said with certainty. They may have had more than one use.

10. Ivory hooks

It is surprising to note the extent of the every day use of ivory in the life of the Harappans. Even the hooks to fasten boxes were made of ivory.¹⁴ These were usually about 7.5cms long with an oval head about 1.25cms in section, and the stem tapering from 2.45cms diameter down to 1.25cms at the end.¹⁵ The top of the head was slightly rounded and the other end cut square with the sides. About half the stem was deliberately rubbed down with a rasp to give it a grip on the sides of the hole in which it was fitted.

¹ Mackay, t, p. 324, 11, pl. CXLII, 48-49.

² For three petalled circle, see: *Mohenjo-daro*, pl. CLV, 51. For a pot from Lothal having this design on its lower rim, see: *I.A.R.*, 1956-57, pt. XIII B.

³ R.F.S. Starr, *Indus Valley Painted Pottery*, p. 74.

⁴ Sir Arthur Evans, *Palace of Minos*, 1, pl. V.

⁵ Mackay, 11, pp 432-433.

⁶ *Ibid.*

⁷ *Ibid.*, p. 433, No. 11734.

⁸ *Ibid.*, p. 433, No. DK 7272.

⁹ *Ibid.*, No. DK 11734.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.*

¹³ V.R.R. Dikshitar, (tr.), *The Silappadhikaram*, p. 336.

¹⁴ Mackay, 1, p. 431.

¹⁵ *Ibid.*, 11, pl. CVI, no. 31.

This is how they were probably used: one hook was set in the lid and another immediately below it in the box itself and then a cord was looped around the two to fasten it securely.¹

11. Ivory baluster, cross-bar and peg

Excavation at Harappa have yielded a concave pillar-shaped ivory piece with flat ends². Round the shafts are two wavy patterns separated from each other by horizontal bands. At both ends, the piece is pierced with lathe holes, 1 cm in depth as well as in diameter. Its height is 4.5 cms.

A 3.9 cms long ivory piece has been found at Chanhudaro,³ which appears to have been the cross-bar of some object on account of the tenon at either end. Three of its sides are flat, the fourth is slightly rounded and has a blind hole in its centre. Another triangular ivory piece from the same site,⁴ too, has a tenon projecting from its perfect end. It is 3.7 cms long and one of its face bears incised hatching, the other two are curiously ornamented with a series of transverse parallel markings, originally filled in with a red pigment, traces of which are still observed.

An ivory peg has also been excavated from Chanhudaro.⁵ It is 4.3 cms long and pierced with a hole, 0.42 cm in diameter. It appears to have been carved by hand and not turned on a lathe (Pl. 18). Mackay is of the opinion that once it belonged to a chest,⁶ which in all probability must have been made of wood. Another similar ivory piece is from Harappa.⁷ It is a fragmentary terminal knobbed at the end which is 1.62 cms in diameter (Pl. 19). It seems lathe-turned and has a shining polish resulting from much use.

12. Ivory Seals

Much of our knowledge of the Harappan civilization is based on square or rectangular seals, made mostly of steatite. In fact, from the point of view of art, they are the best creations of Harappan artists.

Ivory seals, five of which were discovered by Marshall,⁸ are different from their steatite counterparts. They are cylindrical in shape and bear only inscriptions. None of them shows any animal or human figures, unlike the steatite seals. These cylinders could not have any other use. Experiment has proved that they would serve well enough as seals.⁹

Similar finds are described by Mackay as 'round rods.'¹⁰ "More frequently than not there is an inscription in the middle of the rod."¹¹ Two pieces, excavated from different parts and different levels of Mohenjo-daro have the same inscription.¹² Mackay has summarily set aside the earlier description of such pieces as seals without giving any argument, and suggested that "they were used in some form of game, though what that game was we do not yet know."¹³ In the absence of any solid argument, it is better and more probable to take these ivory pieces as seals. Cylindrical seals are known from many other civilizations,¹⁴ Similarly, ivory has been quite a favourite material for Indian seals-makers, and ivory-seals have been excavated from many other sites of later periods.¹⁵ These ivory pieces are thus more likely to be seals than anything else.¹⁶

¹ Mackay himself saw such fastenings in use in Punjab. Similar pegs and lashings were also used in Egypt, Carnarvon and Carter, *Five years of explorations at Thebes*, pl. XLVI, (1).

² Harappa, I, p. 459; II, pl. CXIX, no. 9.

³ E.J.H. Mackay, *Chanhudaro Excavations, 1935-36*, p. 233.

⁴ *Ibid.*, pl. XC, no. 18.

⁵ *Ibid.*, pl. LXXXIX, no. 7.

⁶ *Ibid.*, page 233.

⁷ Harappa, no. 12061, p. 459 and pl. XXIX, no. 8.

⁸ Mohenjo-daro, II, p. 563; III, pl. CXIV, 529-533.

⁹ *Ibid.*

¹⁰ Mackay, I, p. 562.

¹¹ *Ibid.*, II, pl. CX, no. 51-52.

¹² *Ibid.*

¹³ Mackay, I, p. 563.

¹⁴ Egyptian, Mesopotamian etc.

¹⁵ For instance Rupar and Ujjain have also yielded ivory seals.

¹⁶ It may be worthwhile to mention here of an ivory seal of Kassite period excavated at Lothal. See S. R., Rao. "Lothal and West Asia", *International Conference on Asian Archaeology*, p. 48.

13. Ivory scale

Lothal excavations have yielded some technical instruments of considerable interest. One of them is a graduated ivory scale, each division roughly corresponding to 0.17 cms¹ (Pl. 20). Two other Harappan sites have yielded scales, one made of conch shell at Mohenjo-daro and the other of bronze at Harappa.²

14. Miscellaneous ivory objects

Besides the objects described in the preceding pages, a number of other items have also been excavated from Harappan sites. Their exact use, however, is hard to guess.

A 7.5cm long by 0.5cm wide and 0.5cm thick flat ivory strip has been excavated from Mohenjo-daro.³ The incised design of circle and lines on each side was filled with black and red pigments, whose traces are visible. Had it been a strip covering some wooden box or chest as appears from its shape, it should have been decorated only on one side. It is difficult to guess its exact use. Another plain piece of ivory, measuring 5cm × 0.35 × .4 from the same site, shows lightly incised details of a bull's foot at the base,⁴ and is in all probability part of a bigger piece depicting a bull.

Three ivory pieces of about 7 × 1.5 × 1.5 cms size are marked with concentric circles in three places on their edges.⁵ Their front and back are also ornamented. "They suggest some kind of architectural feature, such as a column, though nothing of the kind has been found in the architecture of Mohenjo-daro."⁶ These little ivory objects may have formed part of a model shrine.

Other ivory items of unknown use are perforated square and rectangular rods.⁷ One of these rectangular pieces measures 7.5cms × 1cm × 1cm, and is perforated by three holes averaging .4cm in diameter.⁸ Around the centre of this rod is a band of copper.⁹ It could be a bar of a pair of scale-Pans, but in that case the holes to take the cords for the pans should have been at the end and not at the centre.

Ivory has also been used for making jar-stoppers. A stopper of a narrow-mouthed jar has been reported from Mohenjo-daro.¹⁰ Also discovered from Mohenjo-daro are small round ivory rods with an ornamented head.¹¹ Although looking like game-men, these had probably other uses also, as they have never been found in groups and their bases are too small to stand securely by themselves.

Ivory has also been used by these people for making beads and pendants.¹² This use became very popular later on.

Another item of uncertain use is a flat ivory strip from Harappa. It measures 5.25cms long by 1 cm wide. It has a row of four double incised circles with a dot in the centre, and three single circles and dots at the notched end. The other end seems to have been broken. There is a hole overlapping the design in the middle, which suggests that it was a fitting or decorative strip. But in that case, there should not have been any motif on the other side. It is difficult to determine its use.

Harappa has yielded yet another item of ivory which has been described as spatula by Vats.¹³ It is 15.5 cms long and has a pointed end. Its upper part has been cut flat on one side for a length of 7.5 cms. It could have been a stylus in the beginning; and was perhaps trimmed to turn it into a spatula later on.

¹ *J. A. R.*, 1959-60, p. 17, pl. XII B.

² It is amazing to find that the sawn out strip of conchshell is divided to give a decimal scale of .33 cms probably rising to a foot of 33 cms which, as pointed out by Sir F. Petrie, was wide spread in western Asia and in both prehistoric and Roman Europe; D. H., Gordon, *The prehistoric background of Indian Culture*, p. 65.

³ Mackey, I, p. 564; II, pl. CV, 44.

⁴ *Ibid.*, II, pl. CXXXVIII, no. 61.

⁵ *Ibid.*, I, 564. II, pl. CXXXVIII, nos. 45-47.

⁶ *Ibid.*

⁷ *Ibid.*, I, p. 433.

⁸ *Ibid.*, Antiquity No. DK 3679, II, pl. CV, no. 29-31.

⁹ The copper band may have been attached to give strength to otherwise fragile material of ivory. This also indicates that ivory was a precious material and was cared for even when cracked or damaged.

¹⁰ Mackey, I, p. 404, II, pl. CIX, no. 19.

¹¹ *Ibid.*, I, p. 563.

¹² S. R., Rao, "The excavations at Lothal", *Lalit Kala*, No. 3-4, p. 87.

¹³ *Harappa*, I, p. 461m, II, pl. CXIX, no. 53.

Two ivory chunks have also been excavated from Harappa.¹ These have a flat and projecting rim and are bored across the thickness. In each case, this hole is intersected at right angle by a slit cut in the centre of the base and measuring 2.87 cms by 1.25 cms by 2.87 cms deep. They have a diameter of 6.12 cms and were found together in mound F, trench I. It is very difficult to say as to what use these could have been put to. Perhaps, they show unfinished products, thereby implying that Harappa was a centre of production.

Bone objects

The fact that bone was also being carved and shaped, and put to various uses in the Harappan Civilization, is evident from many finds of bone-objects from these sites. These range from crude rib-bones for stirring liquids² to refined cylindrical seals of Harappan origin found at Susa.³

A bone implement, made from the rib of a large ruminant, was found inside a painted jar discovered at Chanhudaro.⁴ Measuring 35.54 cms in length (but it was once larger), it resembles a paddle and has a slight natural curvature. Mackay is of the opinion that it may have been employed to stir liquides or to beat linen.⁵

A similar bone-rib find from Mohenjo-daro has been interpreted by Mackay to have been used to scrape down or polish the surface of large jars.⁶

A badly wrapped and weathered roller-shaped object of bone has been unearthed at Chanhudaro.⁷ The object, 8.75 cm long, has a hole (0.5 cm in diameter) from end to end. Its wear shows that it was in use, probably a part of the mechanism of a loom. Bone awls and needles have been found at Mohenjo-daro,⁸ Harappa,⁹ Chanhudaro,¹⁰ and Lothal¹¹ (Pl. 21). Curiously enough, the irregular shape of bone-awls from Chanhudaro makes Mackay think that they are made from bird-bones.¹²

Bone dice have also been found at Mohenjo-daro¹³ but they are not so well preserved as those of ivory, and show a certain amount of open grain.¹⁴

Conclusion

The circumstances in which two elephant tusks at Mohenjo-daro¹⁵ and another one at Chanhudaro¹⁶ have been discovered point to the fact that these were considered valuable objects in those days.

The descriptions of various finds in the preceding pages will convince any body that the Harappan artist was well-versed in bone and ivory-carving. His creations range from simple kohl-sticks¹⁷ to artistic vases.¹⁸ And if the number of objects has anything to do with popularity, ivory was much more popular than stone.¹⁹ This material was preferred for certain categories of objects, such as handles, tabular dice, combs, hair-pins, etc.²⁰ The discovery of a fragment of a vase from Mohenjo-daro²¹ indicates

¹ Harappa, I, p. 442 and II, pl. CXXXVIII, no. 24, 25.

² Mackay, *Chanhudaro Excavations*, 1935-36, p. 234.

³ *Mohenjo-daro*, II, p. 424.

⁴ Mackay, *op. cit.*, pl. Xc, 23.

⁵ *Ibid.*, p. 234.

⁶ Mackay, p. 431, pl. CV, 55.

⁷ Mackay *op. cit.* p. 234, pl. XCI, 5.

⁸ Mohenjo-daro, II, p. 470-91.

⁹ Harappa, p. 459, pl. CXIX, nos. 26, 28.

¹⁰ Mackay, *Chanhudaro Excavations*, p. 234, pl. XCII, 28, 33.

¹¹ S. R. Rao, "The Excavation at Lothal, *Lalit Kala*, no. 3-4, p. 87.

¹² Mackay, *Chanhudaro Excavations*, p. 234.

¹³ Mackay, I, p. 560, II, pl. CX, 50, 51, CXLI, 30, CXLIII, 39.

¹⁴ *Ibid.*

¹⁵ The two tusks were found with nine human skeletons. These were remains of a family who was trying to run

away due to some calamity and still clung to their possessions- tusks, cf. Mackay, I, p. 117.

¹⁶ The tusk was found beneath the middle buttress supporting the south-western wall of a room. Mackay says, "the care that had been taken to conceal this tusk suggests that it was stolen property." It need not be a stolen property as thought by him but certainly it was quite valuable and that is why the owner tried to conceal it beneath the buttress. Cf. Mackay, E., *Chanhudaro Excavations*, p. 14.

¹⁷ Harappa, I, p. 459.

¹⁸ Mackay, I, p. 324.

¹⁹ D. H. Gordon, *The Prehistoric background of Indian Culture*, p. 69. Only 13 stone sculptures have been excavated from all the sites whereas ivory objects number several hundred.

²⁰ E. Mackay, *Early Indus Civilizations*, p. 131.

²¹ Mackay, I, p. 324.

that ivory was used for such objects, also, of course, always limited by the size of the tusk. "Yet, curiously enough, no human or animal figures has yet been found carved in ivory in the round—a rather striking fact in view of the number of other materials used in the making of these figures."¹ Mackay has tried to explain this paucity by giving instance of an unfinished ivory plaque, and by saying that the Harappan workers had difficulty in cutting ivory.² But had this been the case, how could all these other ivory objects be carved and made? If the artist could carve a vase and could embellish it with beautiful designs, he certainly could have carved the human figure too, and in fact he did so, although on a plaque³ and not in the round.

One of the reasons why ivory's use was restricted to the production of certain kinds of objects only, could be that it was more expensive to procure, and the supply was limited. One thing is certain that due to prohibitive cost and delicate carving, ivory was used for making either the luxury goods or ordinary objects for special category of people of a higher social or economic status. This points out to a society where rich and poor existed.

In the last decade a good number of Harappan sites have been discovered in India and Pakistan, but only a few have yielded ivories, which seems to be in conformity with the expected pattern 'that the ivory objects were found in the city and not in the township sites'.⁴ By its very nature ivory craft can flourish only where there is a fairly sizable affluent class who can patronize the craft. Knowing the international connections of the Harappans, there is possibility that ivory craft which flourished in the Harappan culture sites, too, had international market. No definite evidence, however, is available in this regard.⁵

Another explanation for the paucity of ivory could perhaps be found in the Harappan religious practices. There may have been a religious sanction against carving of human figures in the round in such a fragile material as ivory. Much information is held back in the pictographic script, which is yet to be decoded. Future excavations and researches may bring forward new evidences which would throw light on ivory and bone carvings of this period.

¹ Mackay, I, p. 579.

² *Ibid*

³ *Mohenjodaro*, II, p. 562; III, pl. CXXXII, No. 10.

⁴ M. K. Pal, *Ivory Works in India through the Ages*, p. 14.

⁵ *Ibid*.

Neolithic and Chalcolithic Bone and Ivory Carvings

Introduction

In a country, as big as India, various modes of life and stages of development persisted side by side in varying conditions of environment. Transition from one mode to another were not quite clear cut. Moreover, Stone Age India is unfortunately lacking in such popular features as cave art, which in the case of Europe serves to lighten the rather dreary jargon of stone chipping techniques.¹

Bone, along with stone, played a very important part in pre-metal times for the manufacture of tools, weapons, ornaments and of objects of representational art. Although bone devices including needles appeared in the upper Paleolithic age, their use became more common from Neolithic and Chalcolithic times. However, so far no ivory tools or objects have been found from the stone age deposits.²

Neolithic Periods

Neolithic period or New Stone Age is characterized by new sources of food supply—deliberate food-production involving husbandry and stock raising. Use of polished stone tools, pottery making, carpentry and weaving were the other innovations of Neolithic man. It took place in different areas over a great range of time.³ As such it is not a specific time phase falling between exact dates but represents a stage in economic and technological development.⁴

Three principal Neolithic regions—northern, southern and eastern have been recognised in India. Apart from the common element of ground and polished stone tools, the assemblages in each region are different.⁵ The Northern Neolithic Culture, as represented at Burzahom⁶ and a few other sites in the Jhelum valley of Kashmir, shows certain unique characteristics. Excavations have revealed two phases within this Neolithic occupation. In the earliest phase the inhabitants lived in circular or oval pits⁷

¹ D. H. Gordon, *The Prehistoric Background of Indian Culture*, Introduction, p. 1.

² H. D. Sankalia, *Some Aspects of Prehistoric Technology in India*, p. 58.

³ B. K. Thapar, in *Indian Prehistory: 1964*, p. 87.

⁴ *Ibid.*

⁵ B.K. Thapar, *op. cit.*, p. 88.

⁶ *I.A.R.*, 1960-61, 1961-62, 1962-63.

⁷ Fear prompted this form of dwelling. Other advantages with these were that they were warm in winter and cool in summer. Cf. Marjorie, and C.H.B. Quennell, *Every day life in the New stone, bronze and early iron ages*, p. 21

dug into the Kerewa soil with timber super-structures. Besides polished stone implements, they made effective bone tools including awls, needles, points, chisels, harpoons, etc. In the second phase, the stone and bone industries of the earlier phase continued, but traces of houses of mud or mudbricks are seen. The potter's wheel was also introduced during this period.

Radio-carbon dates for the Northern Neolithic phase are before c. 2375 B.C. for the 1st phase and the later date for phase II as c. 1400 B.C.¹ Although a number of sites of Southern Neolithic culture have been excavated, only a few have yielded bone tools. Utnur,² Piklihal³ and Tekkalakota⁴ being the main ones. Another site, Halakundi, yielded an interesting bone object by exploration.⁵ Polished stone implements, comprising axes, adzes, pounders, chisels, slickstones, or polishers, slingstones and micro-liths, with a bias for parallel sided blades are from the other associated industries of this phase. Dates range between 2000 and 650 B.C.⁶

Characteristic tool types of the eastern Neolithic culture are : faced hoe, shouldered hoe, splayed axe, bar-celt, rounded butt axe, etc.⁷ Main neolithic sites of this area are : (i) Kuchai, district Mayurbhanj, Orissa,⁸ (ii) Deokajli Hading, Assam,⁹ and (iii) Chirand, district Saran, Bihar.¹⁰ Till about 1968, Chirand was known only for its chalcolithic culture, but in the recent excavation, a neolithic stratum of 3.5 meter thickness has also been discovered. These phases are as yet not dated.¹¹

Chalcolithic Period

The Chalcolithic phase denotes the simultaneous presence both of the copper and stone industries and thus refers to the transitional stage when man had not yet totally given up the use of stone for making implements, even though he had learnt the use of copper.¹² Bone continued to be used for points, stylus, awls, etc., during this period.

The Chalcolithic cultures of the Indo-Pak sub-continent broadly fall into four groups,¹³ (a) the peasant communities of Baluchistan, Makran and Sind¹⁴ (b) the urban 'Indus' cities and their decline or eclipse¹⁵, (c) the post-Indus settlements in central and western India including northern Deccan¹⁶ and (d) the Neolithic Chalcolithic settlements of the Southern Deccan. A fifth group, represented by Pandurajardhili¹⁷ and Chirand¹⁸ excavations, can also be added to these. Roughly, these Chalcolithic cultures lasted for a thousand years. The three overlapping cultures are Banas, Malwa and Jorwe—in that order. Their total time spread is c 2000-1100¹⁹ B.C. The pre-iron cultures of Bengal and Bihar show a spread of c. 1300-700 B.C. at the maximum.²⁰

¹ Bridget and Raymond Allchin, *The Birth of Indian Civilization*, pp. 158-59.

² F. R. Allchin, *Neolithic Cattle-keepers of South India*, p. 44.

³ F. R. Allchin, *Piklihal Excavations*, p. 112.

⁴ M. S. Nagaraja Rao and K. C. Malhotra, *Stone Age Hill Dwellers of Tekkalakota*, p. 85.

⁵ R. B. Foote, *The Foote Collection of Indian Prehistoric and Protohistoric Antiquities*, pl. 46, no. 347.

⁶ B. K. Thapar, in *Indian prehistory : 1964*, p. 91.

⁷ *Ibid.*, p. 91.

⁸ *J.A.R.*, 1961-62.

⁹ *J.A.R.*, 1963-64.

¹⁰ B. S. Verma, "Excavation at Chirand : New light on the Indian Neolithic culture-complex", *Puratatva, Bulletin of the Indian Archaeological Society*, 4, p. 19-23.

¹¹ "It may be recalled here that last year the C-14 determinations of samples collected from the top-most level of the neolithic stratum yielded 1650 B.C. as its date. The

depth of the total cultural deposit of the neolithic horizon is 3.5 meters and so we can expect a date round about 2500 B.C. by the radio-carbon analysis". Lala Aditya Narain, "The neolithic settlement at Chirand", *The Journal of Bihar Research Society*, LVI, Pt. I-IV, p. 34.

¹² H. D. Sankalia, *Prehistory and Protohistory in India and Pakistan*, p. 154.

¹³ B. K. Thapar, in *Indian Prehistory*, 1964, p. 153.

¹⁴ W. A. Fairbridge, *Excavations in the Quetta Valley*.

¹⁵ Subject-matter of Chapter III.

¹⁶ H. D. Sankalia, *Prehistory and Protohistory in India and Pakistan*.

¹⁷ P. C. Dasgupta, *The excavations at Pandu-Rajardhili*.

¹⁸ B. S. Verma, "Chirand and the proto-historic art of Bihar", paper read at the seminar at Nagpur in the month of November, 1970 under the auspices of the Indian Archaeological Society.

¹⁹ D. P. Agrawal, *The Copper, Bronze Age in India*, p. 106.

²⁰ *Ibid.*

*Neolithic ivory and bone finds**Burzahom bone tools*

Excavations at Burzahom have yielded four periods of occupation, two of which fall into the Neolithic phase.¹ The earliest dwellers of Burzahom were pit-dwellers. Stone tools of the period include polished axes, chisels, grinders, and knives, etc. But it is their bone tools which show a trend distinct from other contemporary Indian cultures (Pl. 22).

(i) *Points*—Bone points form the maximum number of objects recovered from the site and show variety, too. Some of these are very thick² and were probably used without any handle or support. Others needed hafting. Some of these have a double point³ (Pl. 23).

(ii) *Arrow heads*—Some of the points are so shaped that they could have been used only by hafting and were probably used as arrow heads⁴ (Pl. 23).

(iii) *Harpoons*—Bone harpoons were used for fishing. One of these harpoons excavated from the site is 'mounted-triangle-shaped',⁵ having serrated edges on both sides. Another example is worked on one side only but has a sharp polished point.⁶ Unfinished specimens have also been found attesting to the local origin of these objects.

(iv) *Awls and needles*—Bone points, large and small, with eyes have also been excavated from Burzahom.⁷ These were probably used for sewing leather cloth.

(v) *Antimony rods*—The fact that they were using antimony rods is attested by finds having blunt points at both ends⁸ (Pl. 22).

(vi) *Harvester*—It is a semi-lunar or rectangular knife, made of bone, and was in all probability used as harvester (Pl. 23). Similar finds have been reported from Neolithic China also.⁹

Other bone tools excavated from Burzahom included short daggers, polishers or scrapers and chisels.¹⁰ The great frequency of bone tools was observed in period II. The unfinished specimens make it clear that these were being manufactured locally, although tools like harvesters seem to have been inspired by Chinese examples. Bone harpoons and points, etc. seem to be local in character, necessitated by the presence of fish in various ponds that must have existed around Burzahom.¹¹

Worked bone from Utnur (South India)

Among many excavated bones, a few show cutting marks to make them useable to extract marrow. Besides these, however, at least one piece had been so treated as to make it into a tool.¹² This was a bovine long-bone from site I, layer 11a,¹³ which had been cut and ground at one end to form a flattened chisel-like blade.

Worked bone point from Piklihal (South India)

A unique and interesting object from the upper Neolithic layers of Piklihal is a worked bone point.¹⁴ It has been roughly cut to shape and then ground to a point, with diamond-shaped section and cut-away butt to facilitate hafting. Probably it formed part of a shuttle.¹⁵ Size : length 4.7 cms., breadth at base 1.65 cms., thickness 1.2 cms.

¹ B. M. Pandey, "Adim Kashmir ke garta-vasi (Hindi)", *Sanskriti*, Dr. Adityanath Jha Abhinandan grantha, pp. 451-462.

² *J.A.R.*, 1961-62, pl. XXXVII, A. B. and fig. 8.

³ *Ibid.*

⁴ *J.A.R.*, 1961-62, pl. XXXVII, A. B. and fig. 8.

⁵ *J.A.R.*, 1961-62, pl. XXXVII.

⁶ *Ibid.*, fig. 8.

⁷ *Ibid.*, p. 19, pl. XXXVII.

⁸ *Ibid.*

⁹ S. P. Gupta in *Indian Prehistory* : 1964, p. 100.

¹⁰ *J.A.R.*, 1961-62, p. 19.

¹¹ *Ibid.* Though bone harpoons, etc. are found in Manchuria and lake Baikal areas, yet not only these regions are far removed from Kashmir but the tools also differ in technology.

¹² F. R. Allchin, *Neolithic Cattle-keepers of South India*, p. 44.

¹³ *Ibid.*, Its radio-carbon date is 2160 \pm 150 B. C. based on a charcoal sample from site I, layer 11a.

¹⁴ F. R. Allchin, *Piklihal Excavations*, p. 112, pl. 57a.

¹⁵ Its cut away butt makes us believe that it could not have formed the point of either an arrow or spear, cf. F. R. Allchin, *Piklihal Excavation*, p. 112.

Worked bone from the Halakundi Camp

Footo reported a chisel or polisher of worked bone discovered by Hubart Knox from the Halakundi camp mound¹. It appears to be a length of bone carefully slit and about 7.5 cms long. The lower end has been ground so as to form a small chisel blade. The bone is not identified, but according to Allechin², it is part of the long bone of a bovine. This artifact is interesting because bone tools are extremely rare in Deccan sites.

Bone tools from Tekkalakota

The site has yielded twelve bone tools,³ consisting of two chisel-ends, one scraper and seven points. It is interesting to note that ten of the tools came from within the house⁴ showing that these were cared for and kept inside the house for use when need be. These can be described as follows :

(i) *Chisel ends* : Both the chisel ends have been made of split long bones of cattle. One of them is ground on both the faces giving it a convex, bifacial, medium edge. Broken at the base.⁵

(ii) *Scraper* : A split long bone of cattle, edge ground. Used as a scraper with a convex end.⁶

(iii) *Points* : Out of the seven examples⁷ four are made on long bones while three others are made on metacarpals with ends ground to a pointed tip. One of the examples, however, is interesting. It is the third phalange of a calf, the base of which is ground, making the original, pointed front very sharp. After hafting it could have been used as a point.

Chirand bone tools and ornaments

Till about 1968, Chirand was known only for its chalcolithic culture, but with the recent excavation, a neolithic stratum of 3.5 m. thickness had also been discovered.⁸ The culture is known mainly by an impressive collection of bone tools and decorated pots. The bone tools include many antler implements also.⁹ The following are the main finds (Pl. 24).

(i) *Celts* : Chirand has yielded many celts of different types. The convex-edged bar-celt was probably utilised as a javelin, or for digging soil, or for cutting fire-wood. The vertical and oblique scratches around the cutting edge may imply that the tool must have served many-fold purposes.¹⁰

(ii) *Scrapers and gouge like tools* have also been excavated from Chirand. These were meant for skimming hide and also for skimming vegetable food.¹¹

(iii) *Burnishers* of different sizes were obviously designed for burnishing clay vessels.

(iv) *Chisels* of different sizes, big as well as small, have also been excavated from the recent excavation at Chirand. These and the hammer, drill, etc. suggest wood craft.¹²

(v) *Needles and bodkin* : Pointed needles were used for sewing leather cloth and bodkins for net-knitting. Neither harpoons nor fish hooks have been found, but besides bodkins terracotta net-sinkers have also been found, to attest to the deep water fishing by the neolithic dwellers of Chirand.¹³

¹ R. B. Footo, *The Footo Collection of Indian Prehistoric and Proto-historic Antiquities*, pl. 46 no. 347.

² F. R. Allechin, *Neolithic cattle keepers of South India*, p. 79.

³ M. S. Nagaraja Rao and K. C. Malhotra, *The stone age hill dwellers of Tekkalakota*, p. 85.

⁴ *Ibid.*

⁵ *Ibid.*, pl. Xa, No. 1 and fig. 10d.

⁶ *Ibid.*, pl. Xa, no. 6.

⁷ *Ibid.*, pl. Xa, Nos. 3-5, 7-11.

⁸ B. S. Verma, "Excavations at Chirand: New light on the Indian Neolithic culture complex", *Puratatva, Bulletin of*

the Indian Archaeological Society, 4, p. 19-23.

⁹ Antlers have been used to make tongs, root extractors, burnishers, hammers and chisels. Antlers picks were being used for tilling soil. Lala Aditya Narain, "The neolithic settlement at Chirand", *The Journal of the Bihar Research Society*, LVI, Pt. I-IV, Pl. VI-VII.

¹⁰ *Ibid.*, pp. 22-23.

¹¹ Lala Aditya Narain, "The neolithic settlement at Chirand", *The Journal of the Bihar Research Society*, LVI, Pl. I-IV, p. 22.

¹² *Ibid.*

¹³ *Ibid.*, p. 23.

(vi) *Arrowhead and dagger* were used as missiles for inflicting injuries and for killing smaller animals and birds.¹ Both, tanged and socketed arrowheads have been found.

(vii) *Stylus pins and points* of different sizes have also been found at Chirand.²

(viii) Other bone finds from neolithic Chirand include *tooth-pick*,³ *drill and whetter*⁴ made out of different parts of animal bones.

(ix) *Bone anvil* : A bone anvil found from the excavation reflects the technology of Chirand's neolithic dwellers. It has a polished surface and a hole and was perhaps used in the manufacture of oblique, straight or convex cutting of bone tools. Perhaps the edge portion of these tools was rubbed against a bone anvil.⁵

(x) *A shaft-straightner* (or baton-de-commandment). A bone shaft-straightner is an unique find at Chirand and points to the wood craft practised by the neolithic people of Chirand.⁶

Besides these tools, some unfinished items have also been excavated. For example, a shoulder bone of an ox also seems to have been under use. These unfinished tools point to their local origin.

Bone ornaments : Chirand neolithic people made bone ornaments also,⁷ such as pendants, ear-rings, bangles, discs and combs, etc. The polished and flaked stone axes were copied in miniature for bone pendants. Tortoise bone and ivory were used for preparing bangles. The flesh or the skin cutting tool was made of the lower portion of the tortoise shell available in the rivers. Its sharp edge was obtained by unifacial rubbing.⁸ A reel shaped object,⁹ having horizontal perforations, is remarkable for its finish. Its exact use is yet to be determined. Perhaps it was meant to see an alignment of any object at a distance. The fragment of the comb shows a socket, probably to provide a better grip. Its teeth, although broken now, also attest to the skill of bone-carvers.

Chalcolithic ivory and bone finds

*Bone objects from Ahar (District Udaipur, Rajasthan)*¹⁰

Ahar is one of the most important sites of the chalcolithic culture. In fact its finds are so distinct from the finds of the central Indian or the Deccan sites that they have been given a separate name : The Ahar culture, sometimes also called the Banas Culture, after the name of the river along which most of the Ahar Culture sites are located. The characteristic ceramic industry of the culture was a white-painted black and red ware, though other wares representative of the chalcolithic culture were also in existence.

Thirteen bone objects have been excavated from the site, but only the following belong to the period under review :

1. *Worked bone knife*¹¹

Made out of a rib bone, it has a sharp edge showing a series of small flakes on the

¹ "Heaps of bone of fish, shell, snail, molluscus and bird discovered from the excavations reflected the variety in non-vegetarian dish which the neolithic community at Chirand consumed", Lala Aditya Narain, *op. cit.*, p. 21.

² Lala Aditya Narain, "The neolithic settlement of Chirand", *The Journal of the Bihar Research Society*, LVI, Pt. I-IV, p. 21.

³ Lala Aditya Narain, *A Study in the Techniques of Neolithic Bone Tool Making at Chirand and their Probable Uses*, p. 21-22. The pointed tooth-pick like artifacts having horizontal grooves at the top end when joined with get locked like the modern geometrical instrument, divider. This was probably used for drawing circle.

⁴ *Ibid.*, p. 19.

⁵ Lala Aditya Narain, "The neolithic settlement of Chirand",

and", *The Journal of the Bihar Research Society*, p. 23.

⁶ B. S. Verma, "Chirand and the proto-historic art of Bihar", paper read at Nagpur seminar of the Indian Archaeological Society, Nov. 1970, p. 2.

⁷ B. S. Verma, "Excavations at Chirand : New light on the Indian Neolithic Culture-complex", *Puratattva, Bulletin of the Indian Archaeological Society*, No. 4 (1970-71), p. 19.

⁸ Lala Aditya Narain, *A Study in the Techniques of Neolithic Bone Tools Making at Chirand and their Probable Uses*, pp. 12-13.

⁹ B. S. Verma, *op. cit.*

¹⁰ H. D. Sanakalia, and others, *Excavation at Ahar (Tambhauri) 1961-62*, p. 213-214.

¹¹ *Ibid.*, fig. 130.

upper surface (Pl. 25). It is only a part and not a complete knife and measures 15.7 cms in length and 3.7 cms in breadth. One of its ends has a depression made by grinding the sharp edged side to serve as a handle. The under side of the tool at the handle has some incised marks. It was recovered from phase Ic, which has been dated to c. 1250 B. C.¹

2. Ground bone tools

Out of five specimens of ground bone tools, all the three that concern us here have been made out of ribs. A chisel like point is made on a splinter, while a flat and very thin tool is made, possibly on a splinter, by grinding. The three specimens may be described as below :

- (a) Part of a rib, plano-convex in section. One of its sides is ground obliquely to get a sharp cutting edge. One end shows that it was cut with some sharp instrument. It measures 5.4 cms in length and 4 cms in width. Datable to c. 1725 B. C.²
- (b) Portion of a rib about 7 cms in width, bi-convex in section showing parallel scrapping marks on one of its edges, c. 1725 B. C.³
- (c) Fragment of a rib plano-convex in section, with its convex side showing ground marks. Length 8.2 cms and breadth 3 cms⁴

3. Bone Points

In all, six bone points have been excavated from Ahir, but only two belong to the period under review. Whereas it is difficult to make out the use of similar bone points from other sites, the technique of making bone points from Ahir suggests that these were intended to serve as arrow-heads. The chipping in all the specimens is done along the length.⁵ The two arrow points may be described as follows :

- (a) A bone arrow-head with a bi-convex body and circular section. The ends are slightly broken. One portion is nicely chipped along the length to serve as the working point, while the other portion is roughly chipped as the tang. It measures 8.2 cms in length and can be assigned to c. 1725 B. C.⁶
- (b) A complete bone arrow-head with carefully chipped point and roughly chipped tang, it has a biconical body and circular section. It is 8.4 cms long and can be dated to c. 1725 B. C.⁷

4. Kohl Stick

A 3.6 cms long lower part of a kohl stick with three fine grooves and a knob at the base, circular in section and having a highly polished surface has also been found.⁸

Bone stylus from Prakash

Prakash, situated in the Tapti Valley, is a famous chalcolithic site, which was excavated in 1955 by B. K. Thapar. Period I of the site has been assigned to the Chalcolithic phase and is datable to c. 1700-1300 B. C.⁹ It has yielded a bone stylus, whose upper end is broken (Pl. 26). Traces of chipping are prominently seen. It is partly polished.¹⁰

Ataranjikhera, Uttar Pradesh

Ataranjikhera, District Etah of Uttar Pradesh, where excavations concluded recently is a very

¹ Sankalia, *op. cit.*, p. 5.

² *Ibid.*, fig. 129.

³ *Ibid.*, *op. cit.*, p. 213-14.

⁴ *Ibid.*

⁵ S. P. Gupta, "Arrowheads-its technology and history",

Journal of the Bihar Research Society, XLVII, Parts I-IV, Jan-Dec. 1961, pp. 129-142.

⁶ H. D. Sankalia, *op. cit.*, pp. 213-214

⁷ *Ibid.*

⁸ *Ibid.*, p. 214

⁹ B. K. Thapar, "Prakash, 1955: a Chalcolithic site in the Tapti Valley", *Ancient India*, No. 20-21, p. 24.

¹⁰ *Ibid.*, p. 129, pl. XXIX, no. 3.

important Chalcolithic site. It has not only extended the Chalcolithic horizons, but also has yielded very interesting results. The main finds are as follows :

(a) *Bone Comb* :

A bone comb¹ with closely set teeth has been excavated from the site. The importance of this find is two fold : firstly, it has come from the levels of Period II of the site, which is assigned to the later half of the 2nd millennium B. C.; and secondly, it is made of bone and not of ivory. It may be recalled that most of the early combs excavated from the Harappan and other contemporary sites are made of ivory,² as bone is not quite suited for making combs since it flakes very quickly during the process of manufacture. Thus, it is interesting to find bone being used for comb-making at this site at such an early stage of human development.

(b) *Stylus, awls etc.*

Period III of the site, which has been assigned to c. 1200 to 600 B. C., has yielded such bone objects as stylus, awls, knitting needles, gamesmen or weights³.

Chirand (District Saran), Bihar

Period I of Chirand which, has been ascribed to the 2nd half of the 2nd millennium B. C., is characterised by the occurrence of the white-painted black-and-red-ware, microliths, and ivory and bone objects.⁴ The finds include bone points, dice and another piece which could be a handle.⁵

The excavations are still going on, and recently the excavators have unearthed a 3 to 4 metre thick Neolithic deposit below period I levels. There is no cultural lacuna between the two phases, i. e., Neolithic and Chalcolithic: rather, these two overlap each other.⁶

Recent chalcolithic finds from the site include a few bone kits such as pins, arrow-heads (some of them are barbed and socketed) and stylus.⁷ Other bone implements like celts, chisels, etc., which were present in the Neolithic phase, are conspicuous by their absence in the Chalcolithic phase. Even the bone ornaments appear to have gone out of fashion. So far, a solitary bone circular locket has been found in the upper strata of the Chalcolithic phase. Thus, when compared to the Neolithic, the chalcolithic art of Chirand shows signs of deterioration.⁸

Mahisadal (District Birbhumi), West Bengal

From period I of Mahisadal excavations, which has yielded black-and-red ware, etc., bone objects, including pins and the fragment of a decorated comb, have also been found.⁹

Pandu-Rajar-Dhibi, West Bengal

Period II of this site, datable to B.C. 1012±120 shows the greatest prosperity of the Chalcolithic Culture. Besides painted or plain black-and-red ware, the site has yielded bone tools also, mainly points and awls.¹⁰ These bone tools recovered from trench No. 4A on the summit of the main mound include a seemingly broken point which has a mysterious affinity with a class of the 4th millennium B. C. Pre-dynastic bone tools of Afyeh in Nubia, Egypt.¹¹

Avra, Madhya Pradesh

Period II of Avra, which has been assigned to the Chalcolithic period, is datable to c. 1500 B.C.¹² The site has yielded about two dozen bone points, a few of which have been recovered from Period II.

¹ I. A. R., 1963-64, p. 47.

² Please see page 22.

³ I. A. R., 1963-64, pl. XXXI, B.

⁴ I. A. R., 1962-63.

⁵ *Ibid.*, pl. XIII, B.

⁶ B. S. Verma, "Chirand and the proto-historic art of Bihar", paper read at the seminar at Nagpur in the month of November, 1970 under the auspices of Indian Archaeological Society, p. 1.

⁷ B. S. Verma, *op. cit.*, p. 3.

⁸ *Ibid.*

⁹ I. A. R., 1963-64, p. 60, pl. XLII, A.

¹⁰ P. C. Dasgupta, *The Excavations at Pandu-Rajar-Dhibi*, p. 29, pl. XV.

¹¹ *Ibid.*, p. 25.

¹² H. V. Trivedi, "Excavations at Avra", *Journal of M. P. Itihasa Parishad*, No. 4, p. 26.

One of the chalcolithic points, is painted black, and another from the same level shows its tip finely retouched and blackish in colour, resembling that of a lead pencil¹. It is not known if the point is stained with blood, as was true of some of the Ujjain finds.² Another possibility could be that this type of point was used for making fine incisions or carvings on pottery like a stylus.

Conclusion

The foregoing description shows that bone and antlers were much in use during the neolithic and chalcolithic phases. Hardly any ivory item has been reported from the sites excavated so far. Perhaps it was easier to convert a rib-bone into a knife or scraper for these people than to carve an ivory piece which needed sharp and advanced tools. The other reason for bone's use for tools and ornaments may be the easy availability of the raw material for carving. Ivory was difficult to obtain whereas bones were available in abundance.

The fact that the neolithic people (at Chirand) were able to distinguish between the use of various bones, shows their mastery in the art of carving. A good thought was given to the choice of materials. For preparing strong implements of bone, they preferred antler which is more sturdy and hard for general use and could last longer. Similarly, for the manufacture of bangles, they selected tortoise bone, out of which circular pieces for bangles were easily taken out.

These finds throw light on pottery and weaving crafts of the neolithic people. In some pottery finds at Chirand the exterior was burnished but the interior bore irregular scratches. These scratches resulted probably due to scraping with a socketed bone comb to make the surface even when the pots were leather hard.

The pointed bone needle, bodkin, gouge-like implements and a spinning disc made of kaolin have survived to indicate the elaborate weaving and spinning equipments which the neolithic people of Chirand had in those days.

The wedge, the chisel and the hammer were perhaps designed for exploitation of wood and bamboos. The discovery of the weeding tools establish planned agriculture. The bodkin confirms deep water fishing, knowledge of swimming and use of boat. Similarly spear-heads, the projectile-points and the tanged arrow-heads were meant for the hunting of smaller animals.

The fact that the hide or the leather was a much valued object in the daily life of the community is attested by the finds of leather-cutting-tool, skin-cutting-knife, skin-dressing-tool, socketed comb and leather-sewing-needle etc.

The environmental setting of Chirand, the stone being scarce in the area, perhaps also encouraged wider use of bone. In fact, in the absence of metallurgical knowledge, the Chirand people were left with no other alternative than to look for substitute in their own surroundings. Their matured observation of natural objects helped them to realise that the animal bones, which were readily available in plenty, could be easily transformed into tools and weapons.

The technical skill of these people is attested by the symmetrical cutting of comb teeth found at Chirand, Ataranjikhra, etc. Their art seems to have reached its climax when we find a reel-shaped object having horizontal perforations, perhaps used for seeing the alignment of objects at a distance. Their developing aesthetic sense is attested by pendant and bangles.

In view of the close resemblances of Burzahom tool types, notably to harvester (semi-lunar or rectangular knives) in the Neolithic period of China and Japan, we are now led to look towards the East for the diffusionary impulses. It is plausible that the relationship between China and Kashmir was established through Gilgit and Sarhad and then along the foot-hills of the Kunlun ranges, the same route as was chosen by people from the 1st century A. D. to the 12th century A. D. Similarly the

¹ H. V. Trivedi, *op. cit.*, p. 39.

² *I.A.R.*, 1957-58, p. 36.

Eastern Neolithic culture seems to have been inspired from the nuclear area of South-eastern Asia.

The chalcolithic phase of Central India shows relationship with Western Asia, especially their pottery and its motifs. Perhaps a common impetus was behind ceramic tradition which broadly embraced Western Asia as well as North-West India, and which, we now find, also extended into Central India and the Deccan.

Thus, the finds of bone tools only (and not of ivory) supports the theory that these neolithic and chalcolithic societies were primarily agricultural and village societies, who used the bones for weapons and ornaments as they lacked the facilities of the rare material of ivory and its carving. On the other hand, bones of stags, bisons, cows, boars and goats were readily available. Some of the bones bore clear cut marks which might suggest that animals were butchered. No wonder these bones were put to utilitarian and artistic uses by Neolithic and Chalcolithic people.

Pre-Christian Era Bone and Ivory Carvings

Historical background

The introduction of iron in India is believed to have taken place around 1000 B.C.,¹ and the written history starts from about 6th century B.C. Our knowledge of this history of the intervening period is very meagre. It has been compared to "a jigsaw puzzle with many missing pieces."² Archaeological excavations have helped in filling these gaps; but a full picture is yet to emerge.³ Other sources of information about this period are Vedic texts, whose date is still debatable. However, "from a purely linguistic point of view the *Rg Veda* in its present form cannot be dated much earlier than 1000 B.C."⁴ Details on agricultural operations, cattle keeping, trades and crafts are found in these texts. Beside various other amusements, the Aryans delighted in gambling, of which we have a touching mention in the 'Gamester's lament', one of the few predominantly secular poems which by lucky chance have found their way into the *Rg Veda*.⁵ It is quite likely that the dice used for gambling were made of ivory, which has always been a favourite material for the production of such gaming pieces.

The age in which true history starts in India, the 6th century B.C., was one of great religious and intellectual ferment. It was the age of the Buddha and Mahavira. Our knowledge of this period is primarily based on Buddhist scriptures—Vinaya texts and the Nikayas, Jātaka stories,⁶ and Jaina religious texts.⁷ Although these texts were passed on by word of mouth for centuries and evidently grew and altered with time, they contain reminiscences of historical events. Some of the Jātakas provide us with interesting information about ivory and bone carvings.⁸ This was the age of sixteen great states *Soḍaśa Janapadas*.⁹ But by the 4th century B.C., Magadha emerged supreme and eclipsed smaller units.

The year of Alexander's invasion, B.C. 326, is a turning point in Indian history. Immediate effects of this invasion were slight. But soon afterwards Chandragupta Maurya carved out a strong

¹ S.D. Singh, "Iron in ancient India", *Journal of the Economic and Social History of the Orient*, V, II, pp. 214-16.

² A.L. Basham, *Wonder that was India*, p. 44.

³ B.B. Lal, *Indian Archaeology Since Independence*, p. 17.

⁴ R.C. Majumdar (Ed.), *The Vedic Age*, p. 207.

⁵ *Rg Veda*, X, 34.

⁶ E.B. Cowell, *The Jātakas or stories of Buddha's former*

births.

⁷ J.C. Jaina, *Life in Ancient India as Depicted in the Jaina Canons*.

⁸ Please see Chapter II.

⁹ R. C. Majumdar (Ed.), *The Age of Imperial Unity*, pp. 1 to 17.

Magadhan empire. The surrounding confusion consequent on the collapse of Nanda authority helped his rise.¹

Estimates of the date of Chandragupta's accession to the throne vary within a decade (B.C. 324-313), but it is evident that he was the chief architect of the greatest of India's empires. He was helped in his exploits by a very able adviser named Kauṭilya or Chāṇakya. His book *Arthaśāstra*² is a mine of information about this period, and tells us some interesting things about elephants and ivory.⁴

Chandragupta was succeeded by Bindusara, who in his turn was succeeded by the Great Aśoka. Fortunately, Aśoka has left behind a number of inscriptions on rocks and pillars, which give us detailed and trustworthy knowledge of his times.⁴ He favoured propagation of his '*dharma*' and extended royal patronage to art, examples of which still testify to the skill and achievements of the Mauryan artists.

The Mauryan kings continued to rule in Magadha for some fifty years after Aśoka, until about 183 B.C., Puṣyamitra Śunga, a Brahmin General, succeeded in capturing power.⁵ His age is famous for the revival of Brahmanism and for excellent examples of Indian folk artists' workmanship left behind in the form of terracotta figurines and the stone carvings of Bharhut and Bodhagaya.⁶

In the trans-Vindhyan region two southern powers became predominant in the 1st century B.C. These were the Satavahanas of the Upper Deccan and the Chedis of Kalinga. The power of the Chedis was short-lived but the Satavahana power endured for three centuries. The Satavahana rulers were great patrons of art.

Meanwhile, events were taking place on the north-western borders which were to have a profound effect on Indian history. A series of invasions, all inadequately documented, brought the whole of what is now West-Pakistan, Gujarat and parts of Uttar Pradesh and Rajasthan under the control of alien kings.⁷

International Contacts

Contemporary literary and epigraphic records provide us with interesting information about India's contacts with other countries of the world. From about 800 B.C. almost continuous contacts with Iran can be traced or inferred from various sources.⁸ In the 6th century B.C., part of Northern India came under the political domination of Iran, and gradually the Indus came to form the eastern boundary of the wide Iranian empire of Darius; indeed this part of India came to be organised into the 20th Satrapy of that empire.⁹ Darius calls himself 'the king of kings, the great king' in his inscription.¹⁰ One of Darius' inscriptions gives very interesting information about India's contacts with Iran, and how Darius received material from some parts of India for his palace at Susa. In fact, it states that he obtained ivory from Sind and Arachosia.¹¹

In the Jātaka stories, too, references to India's contacts with other countries are made quite often. For instance it is believed that the '*Baveru Jātaka*' refers to Babylonia.

Then there are the Aśokan inscriptions, mentioning a number of neighbouring countries.¹² All these point to a high degree of prosperity and sophistication arising out of contacts with other countries. Find of ivory carving of Indian origin in Italy also points to India's active contacts with other countries during this period.¹³

¹ K.A.N. Sastri and others, *The Age of the Nandas and Mauryas*, pp. 132-34.

² R. Shamasastri (Tr.), *Kauṭilya's Arthaśāstra*.

³ Please see chapter II.

⁴ E. Hultzsch (Ed.), *Inscriptiones of Aśoka*.

⁵ R.C. Majumdar (Ed.), *The Age of Imperial Unity*, Ch. VI, p. 95.

⁶ N.R. Ray, *Maurya and Sunga art*.

⁷ H. Raychaudhury, *Political History of Ancient India*, p. 239.

⁸ R.C. Majumdar, (Ed.), *op. cit.*, p. 120.

⁹ H. Raychaudhury, *Political History of ancient India*, p. 241.

¹⁰ '*Kshayathiyanam Kshayathiya*', a Suez inscription of Darius in Tolman, *Ancient Persian Lexicon and texts*, p. 50.

¹¹ R. Ghirshman, *Iran*, p. 165.

¹² E. Hultzsch, *op. cit.*

¹³ Amedeo Maiuri, "Statuetta eburnea di arte le Indiana a Pompeii", *Le Arte*, Anno I, fasc. II, pp. 111-115.

Social conditions

The Jātakas and the Greek writers throw interesting light on the contemporary life of the people. Megasthenes describes in detail the fertility of the land due to "the profusion of river streams" and double rainfall. People gathered two harvests annually. "It is accordingly affirmed", says Megasthenes, "that famine has never visited India and that there has never been a general scarcity in the supply of nourishing food". The statement may not be wholly true, but it certainly shows that at the time Megasthenes wrote it, there was plenty and prosperity. And although Indians generally lived frugally they were fond of finery and ornaments, and this fostered trade and industry. Normally each craft or trade was concentrated in a separate street or bazar,¹ where the craftsman had his workshop, stall and home. However, sometimes, there are references to private producers who had far transcended the status of the small home craftsmen, and who manufactured on a large scale for a wide market. Thus, an early Jaina text² tells of a wealthy potter named Saddalputta who owned 500 potters' workshops. Then, there were trade-guilds (*Śreṇī*) of craftsmen³ and merchants, who maintained regular Sarthavahas for internal trade.⁴

By the time of the Buddha, recognised trade-routes covered most of northern India. One of the chief routes ran from the Ganges port of Tamralipti, up the river to the old city of Champa, and thence through Pataliputra and Varanasi to Kauśāmbi, whence a branch went to the Narmadā by way of Vidiśā and Ujjayini.

All this shows that there was affluence and people had the time and money to create things of beauty, besides the fine arts of sculpture and paintings. Other arts and crafts also enjoyed the patronage of kings and merchants, ivory being foremost among these. There are numerous references to the use of ivory and bone in literature.⁵ But the most important of these is the Sāheli Torāṇa inscription mentioning the ivory-carvers' guild at Vidiśā.⁶

Availability of the material

The *Arthaśāstra* tells us that the Mauryan kept forest reserves for the supply of elephants, and if anybody was caught poaching, the penalty was death. However, those who brought the tusks of the dead elephants were rewarded.⁷ Another bit of information obtained from the same source is that sword handles were made of ivory.⁸ Besides these such other information is provided by the *Arthaśāstra* which seems to have given extra attention to the elephant. Kautilya has elaborately described the modes of catching elephants, and also how their tusks were pruned. According to him the tusks of the elephants living in marshy lands near rivers should be cut every 2½ years, and those of the mountainous regions should be pruned every fifth year.⁹ He also mentions an officer called 'Hastyādhyakṣa',¹⁰ which shows that the Mauryan emperors must have had a good number of elephants in their employ, and obviously the ivory obtained from the pruning of these elephants' tusks must have been used for the manufacture of dice and other artistic items.

Almost all the Greek writers have described elephants at great length—the way they were caught, tamed or hunted, which shows their interest and familiarity with this creature.¹¹

The Buddhist Jātaka stories provide us with interesting information about ivory's availability in those times. It is said in the *Silavanāga Jātaka*¹² that a forester, tempted by the ivory of the Silavanāga elephant, who had once guided him out of the forest when he had lost his way, visited the ivory worker's bazaar at Banaras, where ivory was being worked in diverse forms and shapes. On enquiring as to what

¹ *Dantakāra Vithi*.

² H.A.F. Heernele (Ed.), *Urvasagadasa*, p. 51.

³ I. Buhler, "Votive inscriptions from Sanchi stupas", *EI*, II, p. 92.

⁴ Motichandra, *Sarthavaha*.

⁵ Please see Chapter II.

⁶ I. Buhler, *op. cit.*

⁷ R. Shamasastry (Tr.), *Kautilya's Arthaśāstra*,

p. 53.

⁸ *Ibid.*, p. 111.

⁹ Ramtej Sastri Pandeya, *Kautilyian Arthaśāstram*, p. 53.

¹⁰ *Ibid.*, p. 247.

¹¹ J.W. McCrindle, *Ancient India as described by Megasthenes*, p. 42.

¹² E.B. Cowell (Ed.), *The Jātakas*, no. 72.

they would offer for the tusks of a living elephant, he was informed that they were much more costly than those of a dead one. Such a minute technical detail could have been known to the carvers of long experience only. Similar information is provided by the *Chhadanta Jātaka*.¹ Yet another Buddhist legend says that in the time of Brahmadata there lived in Banaras a hunter who made his living by killing elephants and selling their tusks.²

By the time of the Śunga rulers ivory carvers had organised themselves in guilds,³ which clearly indicates that there must have been a sufficient supply of ivory and finished products must have been in great demand to have inspired the ivory carvers to form a guild.

Technical achievements

At all times the work of the Indian craftsman, however primitive and simple his tools, has been admired for its delicacy and skill, and the technical achievements of the Mauryan and Śunga artists were far from negligible. In the working of stone on a large scale Indian artists' skill is attested by the enormous monolithic columns of Aśoka. Their sculptured capitals are great works of art; but as evidence of Indian technological achievement, the columns are even more significant. Weighing as much as fifty tons, and measuring some forty feet, they were carved from single blocks of stone, given a polish of wonderful hardness and lustre, and often transported many hundreds of miles to their present positions. "It is doubtful whether India ever again showed such complete mastery of the handling of enormous pieces of stone."⁴

Not only stone, but wood was also a favourite material used extensively by the Mauryan artists.⁵ But wood being a perishable material, nothing remains of this art to attest to the carvers' skill.

By the Śunga times many more technological advances were made. The terracotta figurines, which were earlier being made by the applique method, were now produced with the help of moulds, which meant greater precision. Stone sculptures, though lacking the Mauryan polish show not only greater accuracy in the depiction of human anatomy, but also become vehicle of human sentiments.⁶ A seated lady in sorrow from Sarnath shows her state of mind most faithfully.⁷ These achievements in plastic arts clearly indicate an advanced technology, in which ivory carvings, must have had a fairly important place as revealed by the following finds.

EARLY BONE AND IVORY CARVINGS

Early ivory finds are restricted to utilitarian items such as combs, hairpins and arrow heads, etc., and hardly any item of beauty has so far been discovered. However, "the presence of a decorated comb of ivory indicates, apart from the ivory engraver's art, even if not local, the user's financial status as well as a taste for beauty."⁸ Main finds of the period are described below.

Kauśāmbī (U. P.) arrow-heads

The bone and ivory arrow-heads have been found side by side with iron arrow-heads, but their main concentration is in Period III—the N.B.P. ware period⁹ (c 600-200 B.C.). These finds can be categorised in five types :

- (1) With long point and circular cross-section,
- (2) Socketed,
- (3) With double-grooves,

¹ E.B. Cowell (Ed.), *The Jātakas*, no. 514.

² Burlingame, *Buddhist Legends*, I, p. 191.

³ I. Bühler, *op. cit.*

⁴ A. L. Basham, *The wonder that was India*, p. 219.

⁵ Fragments of the large wooden palisade of the city have been unearthed by Dr. Spooner at Bulandibagh near Patna, cf. Spooner, *J.R.A.S.*, 1915, pp. 63. Quite recently excavations at Kankarbagh Housing Colony, Patna,

brought forth many more examples of Mauryan wooden work. Though in dilapidated condition, they attest to the wide use of wood in Mauryan times.

⁶ S. K. Saraswati, *A Survey of Indian Sculpture*, pp. 37-38.

⁷ *Ibid.*

⁸ N. R. Banerjee, *The Iron Age in India*, p. 207.

⁹ G. R. Sharma, *The Excavations at Kauśāmbī*, p. 47, pl. 39.

- (4) Bud-shaped and
- (5) With irregular rectangular cross-section.

In many cases the tang and the point are clearly emphasised. These arrow-heads were intended for shafts made of reed, cane, etc. In the case of the third category, the grooves were used for fastening the arrow-head to the shaft by strings. The point in certain cases show a black stain due either to poison or blood,

Eran (M. P.) bone points and arrow-heads

Sub-period II B witnessed the gradual disappearance of the 'black and red ware' and the use of the dominant 'red ware' came into vogue. Other finds from this period included bone arrow-heads and bone points.¹

Prakash (Tapti Valley) finds

The finds described here² have been recovered from Period II which is assigned to c. 600 to 202 B.C. by the excavator.³ Most of these finds are of bone (Pl. 26) and the only ivory piece is a comb. The main finds are described below :

- (1) Bone stylus showing the carved top and an uniformly polished surface.
- (2) Bone stylus with the upper end broken. The working-edge seems to have been made by chipping, the marks of which are clearly visible.
- (3) Bone borer, working-point of which has been obtained by chipping and grinding.
- (4) Bone awl with a fixed working-point and showing a polished surface.
- (5) Bone perfume-casket with a delicately worked stopper. The bone has been carefully scooped out to make this casket. The exterior surface is polished. A similar casket in metal has been reported from Ujjain.⁴

Bone points from Sonapur, District Gaya, Bihar

Period II of Sonapur, assigned to c. 850-650 B. C., has yielded bone points or styluses and a copper antimony-rod along with the N. B. P. Ware.⁵

Rectangular ivory pieces having incised decorations have also been found⁶. Their exact use is not known. A similar piece has been found at Jhansi by surface exploration.⁷

Rupar, Punjab finds

The importance of the Rupar excavations lies in the fact that they extended the horizon of Harappan culture in the north-eastern region.⁸ Antiquities brought out by these excavations included many ivories, although all these were confined to the third occupation—c. 600 to 200 B. C.⁹ attesting to its popularity during this period.

Ivory Comb

Decorated with incised circle-and-dot design, the comb is quite interesting because of its shape. Only one of its sides has been rounded, perhaps to provide a better grip (Pl. 27). Two circles-and-a-dot design runs along the border. The centre has a circle and a dot motif and a hole nearby. Lower portion and teeth are broken.¹⁰

Hair-pins, collyrium sticks, dice and stylus, etc.

Cosmetic knickknacks of ivory, such as hairpins and collyrium sticks abound in the third level of

¹ *I.A.R.*, 1962-63, p. 11, pl. XXXV A.

² B. K. Thapar, "Prakash 1955 : chalcolithic site in the Tapti Valley", *A.I.* No. 20-21, p. 129.

³ *Ibid.*

⁴ *Ibid.*

⁵ *I.A.R.*, 1956-57, p. 19.

⁶ *I.A.R.*, 1961-62, p. 4 and pl. IV A.

⁷ Information given by Dr. S. C. Kala, Allahabad Museum.

⁸ Y. D. Sharma, "Past patterns in living as unfolded by excavations at Rupar", *Lalit Kala*, No. 1-2, p. 121.

⁹ *Ibid.*

¹⁰ *Ibid.*

Rupar. One of the hairpins has a bud-shaped top and tapers down. Similarly dice and stylus have also been recovered in great numbers¹ (Pl. 27).

Ivory handle

Another important yield of the Rupar excavations is the beautifully carved ivory handle. The lower and upper ends have a chevron pattern, and the middle portion has a criss-cross design. The upper-most portion is unfinished and was perhaps fitted into the object, for which it served as a handle.²

Ivory seal

Yet another important relic from Rupar is an ivory seal inscribed in Brahmi (Pl. 28). It reads 'Bhadapalaksa', equivalent to Sanskrit 'Bhadrāpālākṣya', which means the '(seal of) the protector of the good', possibly a title of a Buddhist ruler, or more likely, of the head of a monastery.³ Oval in shape, it has a knob to hold.

Other finds

Other ivory items excavated from Rupar included a leg base of a pedestal and a stopper (?) with the figure of an elephant etched on it.⁴ Although a very small item, the realistic treatment of the elephant shows the artist's close acquaintance with the animal.

Ivory female figure and tortoise shell toy-cart from Champanagar, Bihar

A broken and blackened ivory figure (Pl. 29) was excavated by the Patna University team from the 6th-5th Century B. C. levels from Champanagar, the famous Champa of Buddha's times.⁵ The figure has lost its right hand and leg and is blackened because of accidental firing. It measures 18.9 cms. and has developed breasts, slender waist and long arms and fingers. She has oval face, well delineated eyes and eye-brows, prominent aquiline nose and broad forehead. Its importance lies in the fact that different parts of the limbs have been fashioned out of ivory pieces separately and then sewed together at neck, shoulder, elbow, wrist and knee.

Wooden figures of this type have been found in Egypt and West Asia belonging to earlier times.⁶ Thus, the discovery of this figure is significant not only from the artistic point of view but it may also throw light on India's contacts with West Asia and beyond.

Another interesting discovery from Champanagar is a toy-cart made of tortoise shell.⁷ The solid wheels show double circular design. The toy-cart is 12 cms. in length and the diameter of the wheels is 5.5 cms. The significance of this cart lies in the material used and the wheels being without spokes.

Prahladpur bone points

Phase I A of Prahladpur excavations yielded 'black-and-red', 'black-slipped' and 'dull-red' wares. Bone points were also excavated from this phase.⁸ Most of these are well pointed and at least two points are decorated with circle and dot patterns.

Prabhasa, Gujrat ivory figures

During the year 1955-56, some fourteen ivory figures were unearthed at Prabhasa from the early historical levels (c. 600 to 200 B. C.) associated with the black and red pottery.⁹ They seem to represent a highly conventionalised female form (Pl. 30). Simple incised strokes regularly marked in a horizontal and oblique series and a number of 'dot-in-circle' punches suffice to delineate all the details

¹ Y.D. Sharma, *op. cit.*

² *Ibid.*

³ *Ibid.*

⁴ *Ibid.*

⁵ B.P. Sinha, "Some rare antiquities from recent excavations in Bihar", *Purātattva*, no. 5. (1972-73), pp. 71, pl. III(a).

⁶ *Ibid.*

⁷ *Ibid.*, p. 72, pl. IV (b).

⁸ I.A.R., 1962-63, p. 41, pl. LXXIV, B.

⁹ J.M. Nanavati, "Ivory figurines from Prabhasa", *Journal of the M.P. Itihās Parishad*, no. 4, p. 57.

essential for such a simplified form. A careful examination of the 'dot-in-circle' motif shows that it has been executed with a definite plan. The first pair of circles can be taken to represent eyes, and the one below them, the nose. Yet another pair on the body can undoubtedly be taken to indicate breasts. The other circles on the lower part of the body are perhaps mere decorations to balance the design. These figures are distributed throughout the four sub-phases of Period III and offer an opportunity to study systematically the changes that took place in their form as time advanced. The earlier figurines are more archaic in appearance and have small, finely drawn but closely packed punches. In the upper levels the incision of an individual punch is thicker and grows larger, but at the same time the distribution of punches is both restrained and regularised. Again, the head of the figurines in the lower levels is diamond-shaped, but becomes flattened to horizontal in the upper levels.

There are differences of opinion about the probable use of these figures. Marshall thought that similar finds from Taxila could either represent a pendent or a child's toy.¹ But as none of these has a hole, they could not have been pendants. Their discovery in bulk suggests that these represent the continuation of the mother-goddess cult known from the Harappan times.² According to Dhavalikar, who calls these 'eye-goddesses' such ivory figures might have been used as amulets during the pox-epidemic.⁴ He argues that such ivory figurines have been excavated from north of Narvada only—the region where the goddess Śitalā is represented with spots on her body. "This cannot merely be accidental but can only be said to be a token of the survival of an age old Harappan cult through the millennia."⁵ Excavations at Taxila,⁶ Nagada⁷ Ujjain,⁸ and Avra have yielded similar ivory figures, which show that such figurines were quite popular as representing the mother-goddess. However, as clay mother-goddess figures have been found in bigger numbers from excavated sites, one would think that perhaps the cost involved in production of the ivory figures prevented their common use. No wonder that similar figures in clay were more popular.

Outside India, similar figures have been found at Susa.¹⁰ Some scholars believe that from Palestine to Mesopotamia the technique could have come to Iran and from there to India.¹¹ But others are of the view that these ivory figurines represent continuation of Harappan elements rather than Achaemenian.¹²

Taxila (Bhir mound) finds

Female figure

Described as a "quasi-human form" by Marshall,¹³ a similar figure to those described above, was excavated at Bhir mound, Taxila, and was dated to c. 5th century B. C. Marshall compared it with similar finds from Egypt.¹⁴ It measures 2.5 cms. in height. Though Dhavalikar calls this piece an 'eye-goddess' and believes it to be an amulet used during the pox-epidemic,¹⁵ in all probability it was meant to be a pendent, as it is provided with a small hole near the top for suspension.

Bone Amalak Beads

This class of beads come only from the Bhir mound¹⁶ and date from the 6th to 3rd century B. C. These are made of bone and are divided into eight gadroons.¹⁷ Beads of the same shape but made of faience found in Sirkap belong to a later period.

¹ Taxila, II, p. 654.

² Nanavati, *op. cit.*, p. 61.

³ M.K. Dhavalikar, "Eye-goddesses in India and their West Asian parallels", *Anthropos*, 60, p. 533.

⁴ *Ibid.*

⁵ *Ibid.*

⁶ Taxila, II, p. 654.

⁷ I.A.R., 1955-56, p. 14.

⁸ I.A.R., 1957-58, p. 36.

⁹ H.V. Trivedi, "Excavation at Avra", *Journal of the M.P.*

Itihasa Parishad, no. 4, p. 13-40.

¹⁰ F. Ghirshman, *Iran*, pl. 39 (b).

¹¹ J.M. Nanavati, *op. cit.*

¹² *Ibid.*

¹³ Taxila, II, p. 654; III, pl. 199, No. 12.

¹⁴ F. Petric, *Objects of Daily Use*, pl. LV, no. 600.

¹⁵ M.K. Dhavalikar, *op. cit.*

¹⁶ Taxila, II, p. 654; III, pl. 199, nos. 8, 9, 11.

¹⁷ These gadroons give it a shape which resembles the small 'Āmalā' fruit; hence the name 'Āmalaka'.

Pendants and amulets

Most of the articles in this class are dagger-shaped pendants of bone or ivory. Two such specimens¹ coming out the Bhīr Mound, may be assigned to the 4th to 3rd century B. C. Another specimen from Sirkap, and yet another from Hathial, may belong to the century following, but their date is problematical.²

One of the dagger shaped pendants is made of bone and measures 4.7 cms. One of its sides is decorated with six incised circlelets—one on the handle and the rest on the blade. The handle has a hole for suspension.³

Another one is made of ivory and is similar to the preceding pieces. On one side of the blade it is decorated with deeply cut parallel lines and two circlelets which show a faint resemblance to a stylised human face (Pl. 31). The reverse is plain. Its handle has a small hole for suspension and it measures 3.6 cms.⁴

Comb handles

Made of bone, these may have been intended for metal combs, possibly for combing wool, but their exact purpose is uncertain. Only one of these,⁵ made of bone, belongs to the 5th or 4th century B. C. It has a groove underneath for a metal comb. Quite broad, it measures 7.2 cms in length.

Stylus

The stylus was used for writing on wax,⁶ the calamus for writing with ink on parchment, birch-bark etc. The average length of a stylus is about 11.3 cms but some are considerably shorter, others considerably longer. Some of these have a fine smooth point, others a ball point. In some, again, the butt is flattened like a chisel for smoothing out the wax, in others it is rounded.

Both the examples, excavated from the Bhīr Mound, are made of bone and are datable to the 3rd or possibly the 4th century B. C.⁷ The first of these, though shaped like a rough bone arrow-head, has a tiny ball at the point which leaves no doubt that even if intended as an arrow-head in the first instance, it was converted into a stylus or modelling tool afterwards.⁸ The other example is the usual kind of stylus with a plain point and rounded butt.⁹

Spindle whorls

Although not quite suited for making spindle-whorls, ivory and bone have sometimes been used for this purpose, as is evident from the Bhīr mound examples belonging to the 4th to 3rd century B. C.¹⁰ These are described below :

- (a) Spindle whorl of bone in the form of a flat disk pierced with a hole at the centre, diam: 2.5 cms¹¹
- (b) Similar, but of ivory and plano-convex shape, diam: 2.2 cms¹²
- (c) Similar, diam: 3.9 cms¹³

Draughtsmen or Counters

Made of ivory and bone, these come exclusively from the Bhīr mound and are datable to the 5th to 3rd century B. C.¹⁴ Usually they take the forms of flat circular disks, flat on the lower side and with a raised boss in the centre of the upper side, surrounded by concentric circles or concentric rows of

¹ *Taxila*, II, p. 654; III, pl. 199, nos. 13 and 14.

² *Ibid.*, nos. 15, 16.

³ *Ibid.*, III, pl. 199, no. 13.

⁴ *Ibid.*, III, pl. 199 no. 14.

⁵ *Ibid.*, II, p. 659; III, pl. 200, no. f.

⁶ The practice of writing on wax was most popular in Medieval Europe and the diptych was extensively used for the purpose. cf. J. Natanson, *Gothic ivories*. These finds at Taxila, however, are very important as they would indi-

cate that the practice was already known at Taxila.

⁷ *Taxila*, II, p. 660.

⁸ *Ibid.*, II, p. 661; III, pl. 206, No. 30, pl. 200, no. 69.

⁹ *Ibid.*, III, pl. 200 no. 70.

¹⁰ *Ibid.*, II, p. 661-662.

¹¹ *Ibid.*, III, pl. 200, no. V, pl. 203v.

¹² *Ibid.*, III, pl. 204, y.

¹³ *Ibid.*, III, pl. 200 no.

¹⁴ *Ibid.*, II, p. 662.

slightly raised excrescences. Other varieties are thin, square or hexagonal tablets. The upper surface is slightly polished. These are described below :

- (a) Disk of ivory, with two concentric rows of circular excrescences around centre-four in inner row, eight in outer. Diam. 1.7 cms¹
- (b) Similar with nine concentric rings round embossed centre. Diam 2.5 cms.²
- (c) Similar, with three concentric circles round the central boss. Stained reddish and grey. Diam 2.2 cms³
- (d) Similar to a, but damaged. Diam, 3 cms⁴
- (e) Hexagonal ivory piece, slightly concave on upper surface. Diam 2 cms⁵
- (f) Square tablet of ivory with crossed diagonal lines incised on one side. Diam : 1.30 cms square.⁶
- (g) Square tablet,⁷ made of bone, has arrow, 'nandipada' and 'Swastika' symbols engraved on one side-perhaps for good luck. Size : 1.5 cms × 1.8 cms All these symbols have been noticed on Taxila coins as well.⁸

Knuckle Bones

Knuckle bones were used by the Greeks from an early age for playing a game similar to dice.⁹ Later, the word was applied to dice proper, but they continued to have only four flat sides, the other two being round.

The only 'astragaloi' found at Taxila were a large group of old fashioned uncut knuckle-bones, such as are depicted in Greek vase paintings of the 4th and 5th century B. C.¹⁰

Antimony rods

The earliest specimens found at Taxila date from the 3rd or 4th century B. C.¹¹ In these specimens, bone or ivory is used for the simple clubbed antimony-rod and copper for the antimony-rod and car-cleaner combined. Antimony-rods or 'kohl-sticks' were used in Egypt and the West from a very early date.¹² Marshall is of the opinion that kohl-sticks and car cleaners were introduced at Taxila by the Greeks.¹³ The main find is given below :

Ivory kohl-stick, with rounded ends, which are scarcely clubbed at all.¹⁴

Ivory and bone arrow-heads

The Taxila finds can be divided into four categories.¹⁵

- (a) Roughly shaped and sharpened at both ends;
- (b) With a smooth circular point and well defined tang.
- (c) With a point similar to but with a hollow socket hole behind for the shaft tenon;
- (d) With a trilateral point and hollow socket hole behind.

The Bhir mound has yielded all these four varieties, whereas only the first variety came out of Sirkap. The first variety remained in use from the 6th century B. C. to the 1st century A. D. whereas the other varieties were used in the 4th and 3rd century B. C.¹⁶ It is debatable whether these bone and ivory arrow-heads were used for serious warfare. It is more likely that they were either employed for practice-archery or for shooting birds.¹⁷

¹ *Taxila*, III, pl. 200, no. i.

² *Ibid.*, III, pl. 203, q.

³ *Ibid.*, III, pl. 203, s.

⁴ *Ibid.*, III, pl. 203 t.

⁵ *Ibid.*, III, pl. 203 V.

⁶ *Ibid.*, III, pl. 200 j.

⁷ *Ibid.*, II, p. 662, III, pl. 203, no. 4.

⁸ *Ibid.*

⁹ *Taxila*, II, p. 663.

¹⁰ *Ibid.*

¹¹ *Ibid.*, II, p. 657.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*, III, pl. 206, no. 26.

¹⁵ *Ibid.*, II, p. 664, III, pl. 206.

¹⁶ *Taxila*, II, p. 664.

¹⁷ *Ibid.*

Nagda (M.P.) ivory and bone finds

Period III of Nagda, which is assigned to c. 500 B. C. to 200 B. C., has yielded some quite interesting bone and ivory objects. The finds included ivory pendants and hairpins, bone stylus and other objects¹ (Pl. 32).

Ivory figures

What are described as more 'ivory pendants' are more likely to be objects of reverence, and may represent the mother-goddess (Pl. 32). Though flat, these two are shaped to suggest the highly conventionalised human form, rather the female form to be sure; and one of these clearly shows even the finger and toes. Unfortunately, both the figures have lost their heads. Simple incised strokes regularly marked in a horizontal and oblique series, and a number of punches, suffice to delineate all the details essential for such a simplified form. Indeed the mannerisms are remarkable for the impressionist qualities they impart to the figurines.

According to J. M. Nanavati,² these figures represent the mother-goddess cult, the continuity of which can be traced from the Harappan culture. N. R. Banerjee, who had earlier called these 'pendents', also accepted this possibility in his later publication.³

Ivory dancing figure

Nagda has yielded a small human shaped figure in ivory (Pl. 32). Its naturalistic head and a pronounced hip would suggest a deliberately assumed pose of grace, or of coquetry in curves, unless it is a presentation in cameo of the dancing female form. As a work of art it has a delicacy, grace and naturalistic features. N. R. Banerjee is of the opinion that "the dancing female from Mohenjodaro, as a still earlier evidence in line, can easily be quoted as a possible distant source of inspiration".⁴ But the time-gap between the two makes the suggestion untenable.

Ivory Comb

The upper half on the square-shaped comb is decorated with two semi-circles, each consisting of six lines and dot in a circle pattern. The teeth of the comb are broken and lost (Pl. 32).

Atranjikhhera (District Etah, U. P.) bone bird

A bone bird has been excavated from the earliest levels of the N. B. P. deposits (c. 500 to 1000 B. C.). It is 2.5 cms long and 1 cms high.⁵

Maheshwar and Navdatoli finds

The fourth period of Maheshwar and Navdatoli, labelled as 'early historic' and assignable to c. 400 to 100 B. C., has yielded several bone and ivory items of interest.

Bone handle⁶

A bone handle piece with a decoration of grooves on bands in relief has been found from these excavations. It must have served as a handle to some object which had a round and tapering tang. Grooves on the outer surface help to have a good grip. It is 99mm. long and has a diameter of 28 mm. and 18 mm.

Kohl-sticks

Navdatoli's period IV has yielded specimens of ivory kohl-sticks, providing evidence of their antiquity going back to the 4th century B. C.⁷

¹ I. A. R., 1955-56, p. 14, pl. XXIV, B.

² J. M. Nanavati, *op. cit.*, p. 61.

³ "A flatish fragment of ivory, shaped to suggest symbolically the human figure, marked decoratively with circlelets could have served either as a pendant or an object of reverence, often recognised as a form of mother-goddess".

N. R. Banerjee, *The Iron Age in India*, p. 207.

⁴ *Ibid.*, p. 207.

⁵ R. C. Gaur, letter dated 5th March, 1970.

⁶ H.D. Sankalia, and others, "*The Excavations at Maheshwar and Navdatoli*", fig. 114, no. 4.

⁷ *Ibid.*

Bone bangles

Two bone bangles have also been found in these excavations.¹

Bone stopper from Hastinapur, U. P.

The third period of Hastinapur, assigned to 6th-3rd century B. C., has yielded a bone stopper.² Earlier a similar item was excavated from Rupar.

Bone points and stylus from Pataliputra, Bihar

Excavations conducted at Pataliputra in the year 1955-56 have yielded bone points and a stylus from its period I, which has been assigned to c. 600 to 150 B. C.³

MAURYAN BONE AND IVORY CARVINGS

The lustrous Mauryan sculptures and applique terracottas have their own distinctive features which have been well defined by scholars. No such definite characteristics can be attributed to the ivories of this period. Most of the known Mauryan ivories have been found in different excavations and are dated either on the basis of stratigraphy, or on stylistic grounds. During this period ivory was used for producing seals also, along with the conventionalised items—arrow-heads, dice, hair-pins, kohl-sticks, etc.

Ivory seal from Ujjain, (M. P.)

An ivory seal marked with the Ujjain symbol and bearing the inscription "gothajasatisakasa" in the Brāhmī script of the 3rd century B. C., was excavated at Ujjain in the year 1957-58.⁴

*Ivory and bone points from Tripuri M. P.**Bone points*

A number of bone points, with tapering ends on either side, were recovered from strata II-V.⁵ Their length varies from 7.50 cms to 12.5 cms the longest being associated with the Mauryan stratum. These objects are variously described as pencils, points, stylus, bobbins, etc., and are known from several sites.

Gaming pieces

Only two examples of gaming pieces were discovered. These come from Strata II and III, which are assigned to c. 400 to 300 B. C. and c. 300 to 100 B. C., respectively. The earliest example is about 15 cms in diameter and has seven concentric grooves on its upper surface. The sides taper slightly and the underside has a small mortice for holding another counterpart of the piece. It is made of bone.⁶ The later example is almost identical with the above, except that it has no mortice at the bottom and the rings on the upper surface are spared. It is made of ivory.⁷ Exactly identical pieces have been recovered from the Bhir Mound, Taxila.⁸

Bone finds from Nagara (District Kalra)

Period II at Nagara, assigned to c. 3rd century B. C.—I A. D., has yielded arrow heads, points and chisel like objects of bone.⁹ At least one of these pieces shows an unfinished product, making it clear that these objects were produced locally.

Bone arrow-heads from Broach

Period I of the Broach occupation has yielded about a dozen bone arrow heads, which have been assigned to c. 3rd century B. C.¹⁰ All these have sharp points and are well polished. Some are double-pointed.

¹ H.D. Sankalia & Others 'The Excavations at Maheshwar and Navdatoli' fig. 114 no. 4.

² B. B. Lal, "Excavations at Hastinapur and other explorations", *A.I.*, no. 10-11, p. 105

³ *I. A. R.*, 1955-56, p. 22.

⁴ *I. A. R.*, 1957-58, p. 36.

⁵ M. G. Dikshit, *Tripuri-1952*, p. 132.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Taxila*, II, p. 662.

⁹ *I. A. R.* 1963-64, p. 10, pl. VI A.

¹⁰ *I. A. R.* 1959-60, p. 19, pl. XX A.

Bone antimony rod from Paunur, Maharashtra

A fragmentary antimony rod with bulbous head ending in a point, a groove below the bulbous position, body non-extant, has been excavated from period II A of Paunur, which is dated to c. 4th century to 1st century B. C.

Ivory elephant from Patna, Bihar

A tiny ivory figure of an elephant has been reported from Patna. It is now in the Kanoria collection at Patna and is believed to be of the Mauryan period,² on the basis of its lustrous polish and naturalistic pose. Its base has a double row of criss-cross pattern. The trunk is turned upward (Pl. 33).³

Ivory finds from Taxila

The ivory objects excavated from Taxila, Bhir Mound are anterior to the middle of the 2nd century B. C.⁴ The objects described below have been classified by Marshall as belonging to the Mauryan levels.⁵

Ram-head of fossilised ivory

One of the most interesting finds from the Bhir Mound is the profile head of a ram in low relief.⁶ It is only 2.5 cms long and is flat at the back, and may have been affixed to a knife handle or pin-head. Another ram head has also been found from the Bhir Mound on a scaraboid seal.⁷ Marshall has assigned it to the Mauryan period.

The interesting point about this find is its material-fossilised ivory,⁸ which is available only in the Siberian region. This shows that probably as early as the 3rd century B. C. trade relations existed between India and Siberia.⁹

Standing figure of a man

An ivory figure of a standing man in the round has been excavated from the Bhir Mound¹⁰ (Pl. 34). It is 7 cms high and wears a long tunic with a band above the waist and a necklace. Through the body, from shoulder to shoulder, there is a hole for the attachment of movable arms; and another tiny hole from the back to the front of the shoulder for the same purpose. According to Marshall, it is a 'crude' figure of a 'doll'.¹¹ which will mean that ivory was being used for making play-things as well.

ŚUNGA AND OTHER CONTEMPORARY BONE AND IVORY CARVINGS

(from c. 2nd century B.C. to the beginning of the Christian era)

The Śunga period has a very important place in the development of Indian art. In the preceding period the patronage of art was practised by the Mauryan court only; but now it passed on to the commoners whose names are inscribed on the Bharhut, Bodhgaya and Sāñchī monuments. Bharhut, Bodhgaya and Sāñchī represent the first organised art activity of the Indian people as a whole. The human figure is endowed with a new form and bearing. It is no longer constituted of different parts joined together but is an integrated and harmonious whole. In the field of terracottas, moulds came into use for the first time, which meant greater accuracy and mass production. Hoards of terracottas have

¹ S. B. Deo and M. K. Dhavalikar, *Paunur Excavation*, p. 28.

² I owe this information to my friend Sri Chitaranjan Prasad Sinha of Patna Museum, Patna.

³ Its size suggests that it could have been used as a Chessman. A similar piece has been excavated at Dalverzin-tep in southern Uzbekistan, Central Asia. See: *Hindustan Times*, Feb., 13th, 1974.

⁴ *Taxila II*, p. 65.

⁵ *Ibid.*, II, p. 625 (chart of antiquities).

⁶ *Taxila II*, p. 666.

⁷ *Ibid.*, II, p. 679.

⁸ There are references that such fossilised ivory came to Mughal India also.

⁹ Another proof of such trades is provided by the find of an ivory pendent showing a bearded Greek head. It is Hellenistic work and must have been brought to Taxila by the Greeks. Cf. *Taxila*, p. 666, pl. 203, no. p.

¹⁰ *Taxila II*, p. 666; III, pl. 203 no. m.

¹¹ *Ibid.*

been unearthed at Kauśāmbī, Chandraketurgarh and other sites. "The artisan and craftsman seem to have combined in them the social ideology of the upper classes and of civic life on the one hand and that of the lower and despised castes and classes and their folk and aboriginal life on the other".¹

In the field of ivory and bone, excavations have brought to light more objects of this period than of the earlier ones. These objects share the common characteristics of the period found in stone and terracottas, archaic but bold treatment of the human figure; diaphanous draparies and heavy jewellery; and the ornamental head dress.² The Śunga ivory and bone carvers show a better mastery of these materials and greater variety of treatment than earlier craftsmen had.

Female bone figure from Mathura

Although known to be a centre of ivory and bone carving, Mathura has yielded only one fragmentary bone female figure, found in the Chaurasi mound³ (Pl. 35). Unfortunately it is in bad condition; the portion below the waist is missing; and the top right part is broken. She has a heavy face which shows close affinities with early Mathura terracottas.⁴ She wears a circular head ornament and an elaborate coiffure with a veil, traces of which can still be seen on the reverse. Her earrings are spiral and she wears a broad collar with beaded decoration⁵ and a chain hangs between her breasts. Her left hand, in which bangles are clearly seen, is touching the earring.⁶

Moti Chandra has assigned it an early 1st century B.C. date,⁷ which seems quite justified on stylistic grounds, and in view of the similarities it shares with contemporary terracottas:⁸ heavy face, elaborate coiffure, spiral earrings, broad collar, necklace, pendent between breasts, and a hand playfully touching the earrings. However, it is difficult to accept Moti Chandra's identification of the figure as goddess Śrī in the absence of anyone of her attributes. Touching of the earring is an attribute of *śrīratna*, too, and she is more likely to be a *śrīratna* than a goddess.

Further, at another place,⁹ Moti Chandra has said that she has a horn of plenty over her head. But the fact is that the horn, if it is a horn, is much above her head and as such cannot be accepted to have grown from it.

Female bone figure from Ahichchhatra¹⁰

The excavations conducted by Rao Bahadur K. N. Dikshit at Ahichchhatra during the years 1940-44 brought out a bone female figure measuring 8.5 cms in height¹¹ (Pl. 36). It is a standing female figure with a round face lit by a smile. The eyes, nose and other features are carved with skill. She wears a rectangular *tilaka chūdāmaṇi* on her forehead. The beaded torques cover her left forearm upto the elbow; the other forearm is invisible. She also sports a five stranded girdle and a heavy anklet. Prominent plaits of the lower garment worn by her may be seen between her legs. Her earlobes are in the early style, hair combed backward, and the back shows the hair plaits of the *veṇi* covered by a veil as noticed in the reliefs of Sāñchi¹² and Bharhut (Pl. 37). The figure is unfortunately broken near the right earlobe, with the result that the hollowness within becomes quite apparent. The other side, at the left of the lady, is decorated with a pillar in the lower half, the upper half being plain. It was perhaps left plain intentionally for this portion has a hole at the top for the metallic rod of the mirror. Had

¹ N. R. Ray, *op. cit.*, p. 86.

² *Ibid.*

³ Moti Chandra, p. 20.

⁴ Sherman E. Lee, *Ancient Sculpture from InJia*, fig. 1-10.

⁵ The collar seems to have run beyond her body on her right side and appears to be a folly of the artist.

⁶ This is a very common motif found on statues of this period and according to Moti Chandra, is an attribute of *Śrīratna*. See: Moti Chandra, p. 24.

⁷ *Ibid.*

⁸ S. C. Kala, *Terracotta Figurines from Kauśāmbī*, p. 4.

⁹ Moti Chandra, Nidhisringa, Cornucopia a study in

symbolism", *Bulletin of the P. O. W. M.*, No. 9, p. 24.

¹⁰ R. C. Agrawal, "Early Indian bone figures in the National Museum, N. Delhi", *E. W.*, N. S., 18, nos. 3-4, pp. 311-314.

¹¹ Excavation number Ae III, 6897, K. IX. 48. After its excavation, the figure was given for chemical treatment and was lying there for several years before being finally salvaged and published by Sri R. C. Agrawal.

¹² J. Marshall, and A. Foucher, *The Monuments of Sanchi*, II, pl. XXXI.

¹³ A. Cunningham, *Stupa of Bharhut*, pl. XXIII.

this part also been carved, it would have become too thin to support a heavy mirror rod. The hole, broader at the top, narrows down below, thus making it clear that it was intended for the metallic rod of a mirror.¹ In fact, the mirror was to be inserted in such a manner that the front view of the female figure would not be obstructed during the toilet.

The left hand of the figure is raised up to the ear, and she seems to hold something in her hand (Pl. 36). R. C. Agrawal has suggested two possibilities : either she is holding a horn of plenty, or else it is the lower portion of a thick lotus stalk.² If the later suggestion is accepted, it will mean that the lotus flower was above this stalk, which seems impossible seeing the overall composition of the bone. The other possibility of its being a horn of plenty is more likely, as it seems to have been a favourite motif in those days.³ Or else it may have been some toilet object.

As to her identification, it has been suggested by R. C. Agrawal that "The details of the charming face, the eyes and the coiffure have been carved with great precision and skill suiting the very concept of the Goddess Śrī-Lakṣmī".⁴ It is difficult to accept this view in the absence of any definite identificatory marks which are associated with Lakṣmī. She may have been a maid holding some toilet object in her hand. This suggestion will suit her position on a mirror handle well. A curvaceous female form will make a beautiful handle of a mirror meant to flatter beauty.

On the basis of her jewellery, plaited hair at the back, faecal features and the overall composition, she can be assigned to c. 50 B. C.⁵ As to the place of its origin, it is difficult to be precise⁶ but stylistically it must have been made in the 'Madhya desha'.

Bone female figure from Ter, Maharashtra

The standing female figure measures 16 cms in height⁷ (Pl. 38). Her left hand is raised up to her earring while the right hangs by her side and is in damaged condition. It is difficult to say with certainty whether her left hand is holding anything; but seeing the other examples of this period, it may be surmised that she was either touching her earring,⁸ or was holding a horn of plenty.⁹ She is wearing elaborate bangles as well as heavy anklets. Her necklace comes between the breasts. The waistband hangs between her legs and comes up to her feet. The faecal features are not quite sharp, and the portion above the forehead is damaged. The overall heavy treatment of the figure suggests a date in the closing years of the 1st century B. C. The angularity and sharpness of features, characteristic of the Kuṣāṇa period, is yet to make its appearance. In all probability it was produced at Ter itself, which has also yielded other bone and ivory figures,¹⁰ and seems to have been a centre of arts and crafts.¹¹

Ivory soldier from Patna, Bihar

The figure was discovered from a depth of 31.25 cms from the Mohalla Mahendru, Patna city,¹² and shows a soldier in relief with the head and lower parts of the legs missing (Pl. 39). The present figure measures 5 cms by 1.87 cms. He holds a sheathed broad-sword in the right hand, and a semicircular fringed shield in the left. His coat is tight fitting and reaches a little below the waist. Its flaps are crossed at the chest, pleated below the waist and secured with a simple waist-band. His undergarment is also pleated and shows traces of a pointed and pleated *patkā*, a common feature of the male costume in the Śunga period.¹³

¹ Metal mirrors excavated from Taxila and other sites have tapering rods.

² R. C. Agrawal, *op. cit.*

³ Moti Chandra, "Nidhiṣṭṛga (Cornucopia) : a study in symbolism", *Bulletin of the Prince of Wales Museum*, No. 9, pp. 1-33.

⁴ Handbook to the Centenary exhibition of the Archaeological Survey of India, p. 34, pl. XIII.

⁵ R. C. Agrawal, *op. cit.*

⁶ *Ibid.*

⁷ R. C. Agrawal assigns it to "Vidisha region," *op. cit.*

⁸ A. Maiuri, *op. cit.*

⁹ R. C. Agrawal, "Early Indian bone figures in the National Museum, New Delhi", *EW*, (N. S.), 18, nos. 3-4, pp. 311-314.

¹⁰ Moti Chandra, "An ivory figure from Ter", *Iahit Kala*, no. 8, pp. 7-14.

¹¹ D. Barrett, *Ter*.

¹² Patna Museum no. 991 (1936).

¹³ A. Cunningham, *The Stupa of Bharhut*, pl. XXI & XXII.

K. P. Jayaswal was of the opinion that it belonged to the Mauryan period.¹ But the comparison he brought forward was that of the soldier figure on the Bharhut railing.² This, however, is a well known fact that the Bharhut railings belong to the 2nd century B. C.³

Motichandra on the other hand, has compared the figure to another soldier represented on Sanchi's stupa II.⁴ There the soldier, who is shown fighting with a lion, wears a half-sleeved coat reaching to the knees and secured with a *kamarband*.⁵ The two shields, too, have similarities in shape. Therefore, it is reasonable to date the figure to c. 2nd century B. C.

Ivory Comb at the Victoria and Albert Museum, London

Although all the teeth of this fragmentary comb are gone, the remaining portion make it obvious that it was once a beautifully carved comb (Pl. 40). It depicts two distinct scenes—first a garden scene showing a partly visible woman seated in a plantain grove, and secondly a *mithuna* scene.

The lady in the garden is wearing a short *sārī* and her right leg is comfortably stretched. The *mithuna* scene shows an amorous couple. The male figure, shown wearing a turban and *dhotī*, is somewhat damaged and his face is completely lost. He encircles the female figure with his left arm, while the right hand holds a cup (?). The lady has a round sensuous face, an elaborate coiffure and somewhat heavily modelled launchies. Seated in the lap of her lover, she has put her right hand across his shoulders, while her left hand holds what appears to be the hem of her garment. She is wearing earrings, a short necklace between her breasts, bracelets and a broad girdle. Stylistically, the two figures bear close resemblance to the figure of similar nature in the Sāñchī bas-reliefs,⁷ the Pitalkhora court-scene⁸ and the Kausāmbī terracottas,⁹ and can, therefore, be assigned to c. 1st century B. C. Because of its nearness to the Sāñchī style Moti Chandra believes that "there is every possibility that the comb owes its origin to Malwa",¹⁰ which seems quite plausible as the region has a great tradition of ivory carvings.¹¹

The ivory figure from Pompeii, Italy

A large private house facing the via dell 'Abbondanza in Island IX of region I in the ruins of Pompeii in Italy yielded a beautiful ivory figure of Indian origin¹² (Pl. 41). Although found inside a wooden box kept in a wooden almirah, it was in a bad condition. Its ivory had partly worn out and some parts of it were missing. Luckily it was nicely restored and can now claim to be the most widely known and published ivory figure of Indian art.¹³

The figure is 24 centimeters high and shows a charming woman standing with legs crossed. She seems to be stepping forward with the left foot which is advanced in front of the right (Pl. 41). She is attended by a female attendant on either side, carved in the same piece of ivory. "The broad full face with wide open eyes, and fleshy mouth with soft and full lips give an expression of happy sensuality to which the full and almost spherical breasts lend an effect of triumphant physical beauty".¹⁴ She has a round chin above a soft, fat throat and her face is slightly turned to left. The heavy hips glide down to the massive and heavy legs, scarcely incised with fat folds at the knees. The legs are full with anklets up to the knees. Similarly the arms are covered with heavy bracelets and then bangles almost to the elbows. The right hand is touching the garland falling at the back and the left hand touches the earring on the same side. The earring in the

¹ K.P. Jayaswal, "An early ivory", *JISOA*, IV No. 1, p. 75.

² A. Cunningham, *op. cit.*, pl. XXXII, 1.

³ *Ibid.*

⁴ Moti Chandra, p. 20.

⁵ J. Marshall and A. Foucher, *The monuments of Sanchi*, II, pl. XLI, 884. For details of the same figure see: H. Zimmer, *The Art of Indian Asia*, II, pl. 30.

⁶ Moti Chandra, p. 21, pl. 4b.

⁷ J. Marshall and A. Foucher, *op. cit.*, II, pl. XLIV.

⁸ Sherman E. Lee, *Ancient sculptures from India*, pl. 26.

⁹ *Ibid.*, pl. 25.

¹⁰ Moti Chandra, p. 21.

¹¹ I. Bühler, *op. cit.*

¹² Amedeo Maiuri, "Statuetta eburnea di Arte Indiana a Pompeii", *Le Arti*, Anno I, fasc. II, pp. 111-115. Translation of this paper has been published by Reazul Hasan in *J.U.P.H.S.*, XIX, pl. 1-2, pp. 1-9.

¹³ J. Ph. Vogel, "Note on an ivory statuette from Pompeii", *A.B.I.A.*, XIII, p. 1.

¹⁴ S.K. Saraswati, *A survey of India sculpture*, p. 91.

left ear is interesting. It is spiral-shaped and has passed through the hole in the earlobe with a rosette shaped pedestal. Similar earrings appear at Bharhut,¹ Jagayapeta² and Sāñchī.³

The lower half of her body is covered with a diaphanous robe held to the waist by a flat belt and a zone made up of three strands of cylindrical and flat beads. On either side hangs the drapery of the shawl.

She is wearing typical ornaments of the period. A heavy necklace of three strings with big beads comes down between the bosom and ends in the form of a pendulum carved like a lotus flower. It rests on a cloth roll, perhaps indicative of the *uttariya*. Above the breasts this necklace is relieved by two projecting cylindrical ornaments which are likewise derived from the floral forms of the lotus. The hair is parted in the middle and is decorated with a beaded circular *Chūdāmañi*.⁴ The *veni*, however, is an elaborate affair (Pl. 42). It is made of two long festoons, one consisting of intertwined lotus flowers and the other of palm-leaves.⁵ Having encircled the forehead they descend over the shoulders down to the waist, forming as it were the twofold borders of a richly fringed hood adorned with a large central rosette and a sheaf of lotus flowers, so as to cover the back of the figure down to the hips and to the flat band of the girdle. The closest parallel of this elaborate hair-do can be found in the Sāñchī *Śālabhanjikā* figure on the Southern *torāṇa*.⁶ The fashionable society of the Śuṅga period boasted a rich repertoire of hair-do's as attested by numerous terracotta figurines and stone sculptures.

The two maids, one on each side, are attendants holding toilet requisites. The one on the right is carrying a small rectangular box with the lid in her left hand raised to the shoulder. The box must have been meant for cosmetics and toilet requisites. Motichandra has identified it with a jewel-casket or a wine bottle.⁷ It could have been a jewel-box, but its shape prevents one from identifying it as a wine-bottle. Had it been a wine bottle, there should have been wine glasses also. The other girl quite symmetrically holds two big spiral pendula in her right hand. Other treatment of the two figures are similar to the main figure, so as to form almost a single statue with three bodies. The artist has very ably pressed and reduced the model to the simple function of caryatids. According to Maiuri, "from this pressing or flattening in the Pompeii statuette comes out a tasteful archaic design that reduces the audacious plumpness of the mother-goddess and recalls at the same time, at least in this particular case, the beautiful traditions of oriental ivory work."⁸

The fact that the bodies of the two maids are flat (Pl. 41) points to two possibilities: either the artist intentionally wanted to show girls in their budding youth, or else he was limited or handicapped in his expression by the material. The latter is the more likely explanation.

At the back of the head can be seen a small hole made by a boring instrument, in which there was to be inserted a cylindrical rod to sustain probably a mirror. Similar figures of ivory, though plain in treatment, have been found in Egypt being put to the same use.⁹

Under the base there is a clearly cut alphabetical sign of trident (*trīśūla*)—a sign in the Kharoshthī script, which was in use in north-western India from the 3rd century B. C. to the 3rd century A. D. The sign is generally interpreted as equivalent in value to *Si*. The identification of the figure depends on whether the above reading is accepted, or, otherwise, the sign is set aside as a maker's mark. Maiuri's reading has been accepted by Moti Chandra¹⁰ who, however, does not take it to be an abbreviation of

¹ A. Cunningham, *Stupa of Bharhut*, pl. XLIX, pl. XLIX, no. 13/14.

² H. Zimmer, *The Art of Indian Asia*, II, pl. 37.

³ J. Marshall and A. Foucher, *op. cit.*, II, pl. XLIV.

⁴ Similar head ornament exists at Bharhut, cf. A. Cunningham, *op. cit.*, pl. XXIII, 1.

⁵ According to the editors of the *Jr. of the U. P. Historical Society*, Sarva Sri R. K. Mookherji, V. S. Agrawal and

N. L. Chatterji, the garland is woven from the *Champaka* flowers.

⁶ J. Marshall, and A. Foucher, *op. cit.*, II, pl. XXXI.

⁷ Moti Chandra, p. 26.

⁸ Amedeo Maiuri, *op. cit.*

⁹ F. Petrie, *Objects of Daily Use*, pl. LV.

¹⁰ Moti Chandra, p. 27.

Śiva (as suggested but later set aside by Maiuri). In his opinion it is short for Śrī whose cult as the presiding deity of beauty and abundance has been emphasised in the Vedic and classical literature of India. Moti Chandra¹ has taken pains to bring out the similarity of this figure with the *Strī-ratna* of the *cakravartī* monarehs. According to him, the Pompeii ivory represents the goddess Śrī-Lakṣmī—“the goddess of fertility and to a certain extent also of beauty.”² Maiuri, too, has identified her as Lakṣmī, “the Goddess of beauty and happiness and wife of Vishnu.”³

As against this view, Vogel,⁴ Benjamin Rowland⁵ and S. K. Saraswati⁶ think her to be nothing more than a mortal creature, perhaps a courtesan, or at the most a *Yakṣinī*. The main difficulty in accepting the figure as Śrī-Lakṣmī is its being a mirror-handle. The figure of deities are rarely drawn on objects of such utilitarian purposes. Being a toilet object, the handle is much more likely to have a charming female figure portrayed on it.

As far as the date of the figure is concerned, it cannot be later than 79 A. D., the date of Pompeii's destruction. The upper age limit will have to be worked out with the help of stylistic characteristics. The jewellery, the diaphanous treatment of the clothes, the head-gear as well as the facial features all point to a Śuṅga date. The way the hair is parted, partly covering the forehead, and the *tilakacūḍmaṇi* quite resemble similar treatment in Bharhut sculptures.⁷ Similarly, the treatment of the hair at the back,⁸ as well as the diaphanous treatment of the garment showing nudity have their counterparts in the Sāñchī Yakṣi figures.⁹ The other item providing a clue to the date is the spiral-shaped earring in her left ear. Such earrings are seen only at Bharhut¹⁰ and Sāñchī,¹¹ which are datable to the 1st century B. C. Moreover, its smoothness and shine suggest that it must have been in use for quite some years to attain such a polish before being buried in the year 79 A. D. Further more, the time it must have taken to reach the place of discovery from the place of origin should also be taken into account, specially at that time when movements of men and goods were comparatively slow. It can, therefore, be safely assigned to the later half of the 1st century B. C.

As to the place of its manufacture, several Indian cities may stake their claim. The appearance of the Kharoshthī alphabet on the ivory would suggest that it was carved in the region where Kharoshthī was well known, Gandhara. But this view cannot be accepted on stylistic grounds.¹² It is quite possible that the artist knew, Kharoshthī, although he may have been working in Mathurā, Ujjain or Vidiśā, or else it could have been made for a market where Kharoshthī was prevalent. It is, however, well known that Vidiśā had an ivory carver's guild in the 1st century B. C.¹³ and it is quite possible that this figure was produced in those parts, as the close affinities in its style with Sāñchī would suggest. Barrett is more cautious when he suggests Malwa as the place of its origin,¹⁴ which of course, includes Vidiśā as well as Ujjain. Find of a fragmentary lower portion of a similar figure at Bhokardan,¹⁵ Mahārāstra introduces yet another claim for the origin of Pompeii figure. Or perhaps both were made at a place near Sāñchī, most likely Vidiśā; to whose art both have remarkable resemblance.

¹ Moti Chandra p. 28.

² *Ibid.*

³ Maiuri, *op. cit.*

⁴ J. Ph. Vogel, “Note on an ivory statuette from Pompeii”, XIII, *A.B.J.A.*, pp. 1-5.

⁵ Benjamin, Rowland, *The Art and Architecture of India* (3rd Edition), p. 66.

⁶ S. K. Saraswati, *A Survey of Indian Sculpture*, p. 90.

⁷ A. Cunningham, *Stupa of Bharhut*, pl. XXIII.

⁸ *I. A. R.* 1961-62, p. 37 and pl. IIX, B. Female bust from Udayagiri.

⁹ J. Marshall and A. Foucher, *The monument of Sanchi*, II, pl. XXXI.

¹⁰ A. Cunningham, *op. cit.*, pl. XLIX.

¹¹ J. Marshall & other, *op. cit.*, pl. XXV.

¹² “From the point of form and style it is completely extraneous even religiously from the Greco-Buddhist art of Gandhara”. Maiuri, *op. cit.*

¹³ J. Buhler, *op. cit.*

¹⁴ Douglas Barrett, “A note of ivories, etc.”, *Lalit Kala*, No. 10, p. 57.

¹⁵ S. B. Deo, *Excavations at Bhokardan*, figs. 37 to 39.

Lower portion of a female figure excavated at Bhokardan (Maharashtra).¹

Lower portion of a female figure, attended by a maid on either side, almost in the same way as noticed in the Pompeii figure; has recently been excavated by Prof. Deo of Nagpur University at Bhokardan, Maharashtra (Pl. 43). The main figure has an elaborate girdle of three strands and her feet are almost covered upto knees with anklets. The two maids are holding toilet-objects in one of their hands. The other hand of one of the maid is akimbo (Pl. 44) and immediately recalls to mind the Yakshi figure seen at Sāñchī stupa toraṇa in similar attitude. The three figures stand on a rectangular base. Stylistically as well as on the basis of excavation, the figure can be assigned to 2nd cen. B. C. It is quite likely to have been produced at Vidiśā or its vicinity.

Hastinapura (U.P.) finds

The famous city of Hastinapura, too, has yielded a number of bone and ivory objects (Pl. 45). But only the following pieces belong to the 2nd century B. C. level.²

- (i) A bone awl.
- (ii) Part of an ivory mirror-handle.

Both these items have been excavated from an early level of period IV. Yet another find, of which the period is uncertain, is part of a circular ivory disc found from an accumulation following the erosion.³

Chandraketugarh (West Bengal) ivory and bone finds.

Period III of Chandraketugarh, assigned to the Śunga period,⁴ is marked by the use of awls and cosmetic-sticks of bone and ivory, dice of bone, etc. Another find from a later period level is a bone object which has two or three letters in the Brāhmī script of the Śunga period.⁵

Nevasa ivory and bone finds

Excavated under the guidance of Dr. H. D. Sankalia, Nevasa has yielded very interesting results.⁶ Its finds belong to six different periods, and it is period IV, c. 150 B. C. to 50 B. C., which concerns us here. Important finds from this level are described below :

- (i) *Handle pieces* :—The fragments of a short, bulbous handle of bone, the exterior having groups of fine and close incised linear decorations have been found at Nevasa.⁷
- (ii) *Three fragmentary ivory combs* :—The teeth of these combs are close set, thin and rounded at the tip. They must have been cut evenly with the help of a thin saw. All these specimens are of a thick variety; and have either a triangular or a rectangular section, and are made of yellowish polished ivory.⁸

Nagal (Broach) ivory and bone finds

The 'black and red ware' occupation of the site is divided into three phases. The earliest phase yielded bone points⁹ or arrow tips and an ivory comb. This phase can be dated to the 2nd century B. C.¹⁰

The next phase, among other things, yielded ivory combs also. One of these comb fragments shows an interesting motif¹¹ comprising three small circles with dots in the centre in a row and a bigger circle as pendent. The motif reminds one of an ear-pendent. Curiously enough, such punched designs can still be seen on modern wooden combs. Other combs have similar decorations of dots-in-circle motifs.

¹ Information received from Prof. S. B. Deo of Nagpur University, Nagpur. Photograph courtesy, Central Conservation Laboratory, National Museum, New Delhi.

² B. B. Lal, "Excavations at Hastinapur and other explorations", A.I. No. 10-11, pp.

³ *Ibid.*

⁴ *I. A. R.*, 1959-60, pp. 51-52.

⁵ *Ibid.*

⁶ H. D. Sankalia and others, *From History to Prehistory at Nevasa (1954-56)*.

⁷ *Ibid.*, fig. 194, no. 19.

⁸ *Ibid.*, fig. 197, no. 5, 6 and 7.

⁹ *I. A. R.*, 1961-62, pp. 11-12, pl. XXVIIA, B.

¹⁰ *Ibid.*

¹¹ *I. A. R.*, 1961-62, pl. XXVII B.

The third phase yielded bone points and bangles of ivory and bone.

Nagari (Rajasthan) ivory and bone points

Ivory seal

An ivory seal¹ with the swastika and the taurine symbol has been excavated from Nagari in association with punch-marked and tribal coins.²

Bone Points

Three bone points, bulbous in the centre and pointed at the two ends, have also been excavated from this site in association with 'Red-Polished' and 'Kaolin wares'.³

Prabhas Patan (Gujarat) ivory and bone finds (Pl. 30).

The period III (c. 2nd century B. C.) at Prabhas Patan has yielded ivory hair pins with bud-shaped tops (nos. 6, 7 and 9), an ivory baton (no. 1) and a small ivory fragment having three rows of a leaf pattern (no. 10).⁴ The design is so ingeniously carved that viewed from either side, two of its rows form pattern which look like a wheat-ear. A small bone spatula has also been found (No. 3). Yet another item of bone is quite curious in shape-like a tumbler-and has two holes which suggest that it might have been used as a pendent.⁵

Taxila (Bhir mound) finds

Bone and ivory seem to have been extensively used at Taxila, as evidenced by the large number of such finds.⁶ Personal ornaments, toilet and domestic articles, gamesmen, dice, toy-furniture and many other such items were made from ivory and bone. Some of these items, discovered from levels belonging to the 2nd and 1st century B. C., are described below :

(i) *Ivory ear-reels*⁷: As the form these objects take is that of a reel, and these were worn in the lobe and not in the orifice of the ear, it is better to call these 'ear-reels' rather than 'ear-plugs'. Some of these are solid, others pierced with a hole at the centre. All three of these have been found at the Bhir mound in stratum IV and are datable to a period prior to the middle of the 2nd century B. C.⁸ (a) Ear-reel of ivory, with one side convex and hole through centre, by which the reel may have been suspended on a cord. Diam. : 2.32 cms⁹; (b) Similar and well turned on lathe. One side is slightly concave and decorated with incised concentric circles round a central projection. Diam. 2.5 cms¹⁰; (c) Similar, but made of bone. It has a hole through the centre. It is of exceptionally large size. Diam. 3.27 cms.¹¹

(ii) *Hair pins* : Out of a lot of several hair-pins only two excavated from the Bhir Mound can be dated to a period before the Christian era. One of these, made of bone, has a separate knob-head of shell.¹² It measures 3.90 cms in length. Another piece is a fragment of an ivory hair-pin with a knob head, length 4.00 cms.¹³

A rectangular ivory strip from Jhusi¹⁴

It is a rather flat and rectangular strip of ivory, incised on one side with the pattern divided into three sections by introducing four verticle lines and dot-in-circle motif. The central division has three smaller circle decorated with rosettes flanked by a horizontal band with dot-in-circle motif above and below. The section to the right is damaged and lost but the remaining portion shows that it must have been similar to the one on the left. Its flat treatment and the absence of a hole make it clear that it

¹ I. A. R. 1962-63, p. 19, pl. XLV, A.

² A similar seal in terracotta showing swastika and taurine symbol has been found at Rairh: K. N. Puri, *Excavations at Rairh*, p. 73 (No. R. 717).

³ I. A. R., 1962-63, p. 19, pl. XLV, A.

⁴ J. M. Nanavati, 'Ivory figurines from Prabhasa', *Journal of the M. P. Jhijha Parishad*, No. 4, pp. 57-61.

⁵ I. A. R., 1956-57, p. 17 and pl. XVIII, B.

⁶ Taxila, II, pp. 651-666.

⁷ Taxila, II, pp. 653-54, III, pl. 199.

⁸ *Ibid.*

⁹ *Ibid.*, III, pl. 199, no. 5.

¹⁰ *Ibid.*, III, pl. 199, No. 6.

¹¹ *Ibid.*, III, pl. 199, no. 7.

¹² Taxila, II, p. 656; III, pl. 199, no. 24 and pl. 206, no. 65.

¹³ *Ibid.*, II, p. 656; III, pl. 199, no. 25.

¹⁴ V. P. Dwivedi, 'A bone and ivory carving from Jhusi', *Journal of Indian Society of Oriental Art*, N. S., IV, p. 106.

cannot be a handle as identified earlier.¹ The fact that it is incised on one side only suggests that it was meant to be attached to some box, etc. as were the plaques from Begram.

As regards its date, a clue is provided by a similar find from period II of Sonapur, Bihar, which has been excavated from N. B. P. level.² It can, therefore, be safely assigned to 2nd cen. B. C.

Taxila (Sirkap mound) finds

Bone Comb

Only one of the several combs discovered at Sirkap³ can be dated to the 1st century B. C.; other belong to a later period. It has been carved out of bone and has a plain curved top without any decoration. The other combs are decorated. All of its teeth are broken. Length: 7.17 cms.

Other finds

In the year 1944-45, Shri A. Ghosh again excavated the Sirkap mound at Taxila and among many items excavated at the site were a few ivory and bone objects as well. Here we are concerned with only those which belong to a period before the beginning of the Christian era.

Prominent ivory find of this excavation was a rectangular ivory slab⁴ oblong in section. The edge of one of the longer sides is grooved and contains four blind holes; the other edges are plain, the longer one having three holes and the shorter ones two each. One face of the slab is bordered all round by an incised row of two concentric circles enclosed within double lines. The centre contains a similar circle enclosed by dots and is flanked on each side by circles, also similar but enclosed by smaller single circles. The purpose of the object is uncertain. It has been discovered from a layer between phase I and II and can be assigned to the 1st century B. C.

Paunar, (Maharashtra) finds

Only two things belonging to c. 1st century B. C. have been excavated from Paunar :

- (i) Fragment of probably an unfinished die, square in section and with circles not yet incised.⁵
- (ii) Fragment of a bone piece, possibly joint-piece, with one end excavated to a quarterfoil patterns.⁶

Conclusion

The foregoing description shows that there were three main sub-currents during this period—one from 1000 to 300 B. C.; another Mauryan and third Sunga.

Early ivory finds are restricted to utilitarian items and when compared to Neolithic Chalcolithic culture, we find ivory's use on the increase and it replaces bone for many purposes. It would thus appear that by now ivory was readily available and hence it replaced bone. Epigraphical evidence shows that during this period ivory was being exported to Iran.

The most significant discovery of this period are ivory mother-goddess figurines which have been discovered in almost identical shapes from several sites. These show continuation of the mother-goddess cult from the Harappan civilization when the figures were being made in clay.

It is surprising to note that not many Mauryan ivories have been found in excavations despite the fact that it was a prosperous period. However, literary evidence shows that ivory was a prized item during this period and there were strict regulations about its pruning. If anybody was caught killing an elephant in the reserve forest area, the penalty was death.

¹ S. C. Kala, "Antiquities from Jhusi in the Allahabad Museum", *Journal of Indian Museums*, XIV-XVI, pp. 1-9.

² *L. A. R.*, 1961-62, p. 4, pl. IVA.

³ It is surprising that no comb has been found at the Bhir mound, Taxila.

⁴ A. Ghosh, "Taxila (Sirkap), 1944-45", *A. I.*, no. 4, p. 81.

⁵ S. B. Deo and M. K. Dhavalikar, *Paunar Excavations (1967)*, p. 98, fig. 30, no. 12.

⁶ *Ibid.*, fig. 30, no. 25.

An ivory stylus discovered from Taxila suggests the practice of writing on wax, perhaps on a diptych. In fact, later discoveries (discussed in the VIII chapter) prove that the ivory diptych was known to this part of the world earlier than it was known to Europe.

Several bone and ivory mirror-handles with charming female figures show that it was a popular item during the Sunga period. And find of one such handle at Pompeii (Italy) proves that these were being exported to foreign countries even before the beginning of the Christian era. The way in which it was kept in a wooden box inside a wooden almirah would indicate that it was a prized and rare item.

We come to know from an inscription on the Sāñchī Torāṇa that ivory carvers had organised themselves in a guild. The fact that such a guild could donate torāṇa to the Sāñchī stupa is evidence to the flourishing trade in ivory. Vṛdiśā in the Malwa region, as well as Ujjain, Ter, Taxila and Alu-chhahtra, etc., seem to have been the main ivory producing centres of the period.

A few Hellenistic items excavated from Taxila, show that either Greeks were bringing carved ivory items with them or there were some Greek ivory-carvers working at that city and proves a close relationship between the two cultures.

Kuṣāṇa Bone and Ivory Carvings

Introduction

The chapter has been named after the Kuṣāṇas who were the most powerful rulers of their time. However, it deals with other contemporary ivories as well, including those from Begram, Afghanistan. Begram was the summer capital of the Kuṣāṇas, whose domains included Afghanistan. The chapter has been divided into two parts: Part 'A' deals with ivory and bone objects excavated from the Kuṣāṇa and contemporary levels of various sites all over India; and Part 'B' discusses the ivory and bone carvings excavated at Begram,¹ which, owing both to their quantity and unmatched quality, deserve separate treatment.

PART 'A'

Historical background

The political history of north-west India, which was the stronghold of the Kuṣāṇa rulers, is chequered with invasions and counter invasions. This is the strategic part of India which was attacked by Alexander the Great, and later ruled by his Greek chieftains. They were followed by the Śakas, and later by the Pahlavas, who in their turn were conquered by the Kuṣāṇas. The racial affinities of the Kuṣāṇas are still a matter of controversy. The current evidence of their origin clearly points to tribes from the northern regions of Central Asia, called, 'Kuei Shuang'² in the Chinese chronicles. The Kuṣāṇas formed a confederacy with other tribes called Yuch-Chin, We Sun and the Śakas. Some time between the second and first centuries B. C., these tribes joined hands to overthrow the Greek kingdom of Bactria.³ In the struggle that followed, the Kuṣāṇas must have headed the other tribes of the confederation, since they gave their name to the new state in Bactria. Later, some time during the first half of the 1st century A. D., Kujula Kadphises and his son Vima Kadphises, between them gained control over north-western India.⁴ However, it was the third ruler of the dynasty, Kaniṣka, who extended his kingdom towards the Gangetic plains.

Thus, three different historical and cultural components, i. e. the local Bactrian, the Hellenic and the nomadic, combined with the traditions of the neighbouring peoples in Central Asia, Afghanistan, Pakistan, India and Iran, to create that complex and unique synthesis of ethnic, cultural, social and

¹ J. Auboyer, 'Ancient Indian ivories from Begram, Afghanistan', *J.I.S.O.A.*, XVI, pp. 34-46 (About 600 objects were excavated from the site)

² B. Gafurov, "The great civilization of the Kushanas",

The UNESCO Courier, Feb. 1969, pp. 4-13

³ *Ibid.*

⁴ A. L. Basham, *The Wonder that was India*, p. 60

political phenomenon, which we call the Kuṣāṇa civilization.¹ At about the same time an important kingdom rose in the north-west Deccan on the ruins of the Mauryan empire, that of the Satavahanas or Andhras. The dynasty survived for about 300 years or more, until the 3rd century A. D., its power often crossing the Narmada into Malwa. They had their heyday in the 2nd century A. D., when their dominion stretched from sea to sea.

Date of the Kuṣāṇas

Kaniṣka was the greatest of the Kuṣāṇa rulers, and his date is one of the most controversial questions of Indian history. Even in the face of new evidences, which keep pouring in, a final solution is still as difficult as ever. However, it is generally agreed that Kaniṣka should be assigned to a period not earlier than the last quarter of the first century A. D.² He was the founder of an era in the sense that his regnal reckoning was continued by his successors. If the identification of the Kaniṣka era with the Śaka-kāla of A. D. 78 is to be accepted, Kaniṣka ruled from A. D. 78 to A. D. 101-102. The history of the Kuṣāṇas covers a period of about five centuries, between the downfall of the Graeco-Bactrian kingdom in the second or first century B. C., and the rise of the empire of the Ephthalites or white Hūnans at the end of the 4th or early in the 5th century A. D.³

The Kuṣāṇa empire

Kaniṣka's empire seems to have stretched from Bihar in the east to Khorasan in the west and from Khotan in the north to Konkan in the South.⁴ His epigraphic records come from Uttar Pradesh,⁵ Sind⁶ and North-western India⁷ (now in Pakistan). The find of an inscription of Kaniṣka's immediate successor near Kabul and a tradition recorded by Alberuni point to Kaniṣka's rule over Afghanistan and the adjoining parts of Central Asia.⁸ His coins have also been found extensively all over these regions.

The Kuṣāṇa society

The Kuṣāṇa period is marked by the prolonged and fruitful co-existence of the various people who inhabited the empire, and of their traditions, religious system and beliefs. Although Kaniṣka is regarded as a Buddhist, the reverses of his coin types portray Greek, Sumerian, Elamite, Persian and Indian deities.⁹ This tolerance, in the broadest sense of the word, was an important factor in the flowering of a culture which embraced the essential features of local traditions and ways of life and helped to bring to the fore new cultural values for the entire region.

Kaniṣka was a great patron of art, and learning. Not only the Buddhist philosophers, Āśvaghoṣa, Pūrva and Vasumitra, enjoy his favour; another learned man named Saṅgharakṣa is known to have been his chaplain. Nāgārjuna, the great exponent of the Mahāyāna doctrine, as well as the celebrated physician Charaka probably flourished at Kaniṣka's court. These and other worthies, like the Greek engineer Agesilaus, played a leading role in the religious, literary, scientific, philosophical and artistic activities of Kaniṣka's reign.

A fairly advanced and flourishing economic life in the Kuṣāṇa period is revealed by the contemporary epigraphic records,¹⁰ corroborated by the data available from the works of Āśvaghoṣa¹¹ and the 'Periplus of the Erythraean Sea',¹² also from Ptolemy's 'Geography'. Individual business organisations prospered, and even foreigners did not hesitate to invest money for pious and religious purposes, as attested by the Mathura Brāhmī inscription of the year 28.¹³ It records the dedication of

¹ B. Gafurov, *op. cit.*, p. 11.

² R. C. Majumdar (ed.), *The Age of Imperial Unity*, p. 143.

³ B. Gafurov, *op. cit.*, p. 7.

⁴ R. C. Majumdar (ed.), *The Age of Imperial Unity*, p. 141.

⁵ Kosambi inscription of the time of Kaniṣka I, year 3; cf. D. C. Sircar, *Select Inscriptions bearing on Indian History and Civilisation*, I, pp. 135-136.

⁶ Sui Vihār Copper Plate inscription of Kaniṣka I, year 11, cf. D. C. Sircar, *op. cit.*, pp. 139-140.

⁷ Zeda Inscription of Kaniṣka I, Year 11; D. C. Sircar,

op. cit., pp. 139-140.

⁸ B. N. Puri, *India under the Kushanas*, pp. 51-52.

⁹ Percy Gardner, *The Coins of the Greek and Scythic Kings of Bactria and India in the British Museum*, pp. 129-132.

¹⁰ Sien Konow, *Kharoshthi Inscriptions with the exception of those of Aśoka*, CII, II, part I.

¹¹ B. N. Puri, *op. cit.*, pp. 161-167.

¹² W. H. Schoff (tr.), *The Periplus of the Erythraean Sea*.

¹³ E. I., XXI, pp. 55 ff.

550 'puṛāṇas' each, in two separate guilds, by a certain lord of Bakana or Wokhāna. The existence of such guilds and their functioning; somewhat like modern banks, is also known from the Nasik Buddhist cave inscription.¹ There was a free flow of travellers from one place to another. Many professions are known from literary and epigraphic records.

The Kuśāṇa rulers introduced new fashions of dress. The kings dressed themselves in trousers, overcoats and heavy boots. Women, too, began to wear blouses, jackets and frocks in imitation of the Greeks; but this fashion did not remain in vogue for long and most of them are shown in works of art with the upper half of the body bare. The ladies were fond of elaborate toilets and Aśvaghōṣa mentions Sundari asking her husband to hold the mirror while she paints herself.² The ladies as well as men were fond of jewellery, as seen in the stone sculptures of the period.

Flourishing trade, and consequent prosperity, were instrumental in supplying a prolific patronage of arts, which attained new heights under the Kuśāṇas. The Buddha image came to the fore during the Kuśāṇa period.³ Mathura, the main city of northern India under the Kuśāṇas, became a great centre of art, and its sculptures went to different parts of India.⁴

Cultural contacts during the Kuśāṇa period

The Kuśāṇas not only sponsored great intellectual and artistic achievements in their own dominions, but also remained in close contact with the leading cultural centres of the ancient world. They controlled the important overland routes between China and Rome. The first trans-continental trading and diplomatic route known as the 'Great Silk Route' ran from China to the Mediterranean across the Parthian and Kuśāṇa dominions.⁵

Oriental spices and silk were in great demand in fashionable Rome;⁶ and Roman articles in turn, found their way to Western Asia, India⁷ and Indo-China. Kuśāṇa ambassadors were present in Rome at the celebrations held by Trajan after his victory over the Dacians at the end of the 1st century A.D.⁸ Further evidences of contacts between the Kuśāṇas and the Romans are provided by the Begram finds.⁹

Technical achievements under the Kuśāṇas

The Kaniṣka's reliquary from Peshawar,¹⁰ portrait statues from Mathura,¹¹ and a great variety of other articles excavated at Taxila,¹² bear testimony to the skills achieved by the Kuśāṇa artists. They worked with the same care in gold and silver as in stone and ivory. Extensive use of iron objects at Taxila, as evidenced by the excavated finds, shows their full familiarity with iron. A few bronze objects have also been unearthed at Taxila.

Several distinct artistic schools and trends existed during the Kuśāṇa period, which, though often interconnected, were yet artistically independent. Most prominent among these are the Gandhara and Mathura schools of art. In fact the art of the Kuśāṇas lasted much longer than their empire, and exercised a good deal of influence on Gupta art.¹³

The biggest contribution of the Kuśāṇa artists to Indian art is the popularization of the Buddha image.¹⁴ On whether the image originated at Mathura or in Gandhara, scholars differ. But most of

¹ Lüders list, nos. 1133, 1137.

² *Saundarānanda*, IV, 31.

"Dattvātha sā darpanamasya haste
mamāgrato dhārana tāvadenam,
viśeṣakāṇāṃ jñādahanāṃ karamityu-
vācha kāntāṃ sa cha tāṃ vabhāra"

³ N. P. Joshi, *Mathurā Ki Mūrtikalā*, p. 19.

⁴ Sculptures of Mathura origin have been excavated from Sarnath, Sravastī, etc.

⁵ Anil de Silva, "The spice and silk roads", *The Times of India Annual*, 1969, pp. 71-80.

⁶ M. Wheeler, *Rome beyond the Imperial frontiers*, p. 149.

⁷ M. Wheeler, "Arikamedu; An Indo-Roman trading

station on the east coast of India", *A.J.* No. 2, pp. 17-124.

⁸ Gafurov, *op. cit.*, p. 6.

⁹ Excavations at Beiram yielded Indian ivories, Chinese lacquer ware and Roman plaster moulds, etc.

¹⁰ J. M. Rosenfield, *The Dynastic Arts of the Kushans*, pp. 254-262.

¹¹ *Ibid.*, pp. 138-153.

¹² J. Marshall, *Taxila*, 3 Vols.

¹³ A. K. Coomaraswamy, *History of Indian and Indonesian art*, p. 72.

¹⁴ A. K. Coomaraswamy, "The Indian origin of the Buddha image", *J.A.O.S.*, 46 (1926).

them agree that the Buddha image was first fashioned in India during the Kuṣāṇa rule.¹ The new direction in imagery required new means of expression, and according to the demands of the time, new techniques were evolved.

Instead of being realistic, the artist always confines himself to the sphere of youth and grace. His ideal is, no doubt, the classical Indian ideal of handsome men and women, the former with broad shoulders, mighty chests and tense abdomens, and the latter with full bosoms, narrow waists, broad hips and almost willowy suppleness. Along with this we recognise a technical sufficiency which faithfully renders the optical impressions and spatial relations of objects together with an illusion of depth.²

In regard to carvings in ivory, the technical skill attained new heights. The Begram finds alone show that, besides the usual carving in the round or in high relief, the Begram artists used a technique in which figures were carved in depth; i.e. after the outline was drawn, the artist removed the material along the inner side of the outline to create a feeling of depth and thus to project the figure.³ This method is not only most effective but unparalleled in Indian art. Taxila ivory finds also show a great variety which comes from experience.

Thus, technically the Kuṣāṇa artists had the know-how required for producing the most famous examples of Indian art in the medium of ivory and bone.

THE KUṢĀṆA PERIOD IVORY AND BONE FINDS

Finds from Taxila

The Taxila ruins were very extensive and spread over several mounds. Antiquities excavated from the Sirkap mound, from the Śaka, Parthian and Kuṣāṇa levels and assignable to a period after the beginning of the Christian era, are described below.

Bangles⁴

Bone and ivory were rarely used for bangles. Most commonly used materials were shell and copper for the cheaper variety and silver and gold for the expensive ones. Only one fragment of a plain ivory bangle, with incised cross-hatching between parallel lines on the outer face, had been found from a stratum assignable to the early 1st century A.D.⁵

Another plain bangle of ivory, more than one cm. wide, was found during the 1944-45 excavations of the Sirkap mound, and is assignable to c. 2nd century A.D.⁶

Bone and ivory combs⁷

Whereas no comb was discovered from the Bhir Mound, Sirkap has yielded quite a few of them. Not only did the ivory combs become popular in the Śaka-Parthian period but they were also better finished when compared with earlier finds from other sites. The combs found in the early stratum of Sirkap were plain and heavy, but those discovered from the Śaka-Parthian occupation levels were decorated with incised circlets⁸ or more elaborate designs, which include a shell,⁹ foliate devices,¹⁰ a duck,¹¹ a pair of human busts,¹² a reclining lady¹³ and other auspicious symbols.¹⁴ In shape also, the later finds show greater variety and improvement. In fact, one of the Sirkap finds is unique in its shape and workmanship. Most of these are carved on both sides, and the teeth are smoothly cut. The main finds are described below:

(i) Hair comb of bone with curved top. It has eleven incised circlets on one side and ten on the other. Eight of its teeth are complete. It measures 6 cms in length, and has been assigned to the 1st century A.D.¹⁵

¹ Benjamin Rowland, Jr., *The evolution of the Buddha image*, p. 8.

² J. Hackin, and M. J. Hackin, *Recherches Archeologiques a Begram* (2 volumes).

³ J. Auboyer, "Ancient Indian ivories from Begram, Afghanistan", *J. I. S. O. A.*, XVI, p. 36.

⁴ *Taxila*, II, p. 651.

⁵ *Ibid.*, p. 653; III, pl. 199, no. 2.

⁶ A. Ghosh, "Taxila (Sirkap), 1944-45", *A. I.*, No. 4, p. 60.

⁷ *Taxila*, II pp. 655-656.

⁸ *Taxila*, III, pl. 199, no. 19.

⁹ *Ibid.*, No. 22.

¹⁰ *Ibid.*

¹¹ *Ibid.*, No. 21.

¹² *Ibid.*

¹³ A. Ghosh, *op. cit.*

¹⁴ *Ibid.*

¹⁵ *Taxila*, III, pl. 199, no. 19.

(ii) Ivory hair comb with curved top having seven incised circlelets on one side, and eight on the other. Length 4.5 cms, 1st century A.D.¹

(iii) Ivory hair comb with curved top, and engraved with male and female busts on one side, and a duck on the other (Pl. 46). Its teeth are broken and completely lost. Length 5 cms.²

Marshall's assertion that the 'pair of busts' motif is "derived from the West"³ is not quite true. The motif was known to the Bharhut⁴ artists, and was quite popular with their counterparts at Mathura.⁵ In fact it occurs more often in the indigenous art of Mathura than in the Western oriented Gandhara art.

The duck reminds one of similar figures on Begram ivories.⁶

(iv) Hair comb of ivory with curved top. It is decorated with a floral design in a beaded border on one side, and a conch shell and floral design in a beaded border on the other. Length 5 cms.⁷ Conch shell has been an auspicious symbol, and occurs on another comb also.⁸ Combs endowed with such auspicious symbols must have been carved for someone special, perhaps for some charming, beloved lady.

(v) Ivory hair comb with straight edge at top and sides slightly curved inwards. It is decorated with incised circles between parallel beaded borders, which are also incised. Another row of 'dots and circles' above the teeth, which are damaged and lost. The comb is unusually large and heavy, measuring 10.5 cms × 9.3 cms × 1.4 cms.⁹ The precision with which the motif of 'dots and circles' has been incised to mark different patterns shows the technical skill of the Taxila artists.

The bigger size of the comb probably indicates its being a family comb used by both men and women, whereas beautifully carved smaller combs were perhaps meant for use by charming ladies. Their smaller size, light weight, and semi-circular shape suggest that perhaps they were worn in the hair, a practice dating from earlier times.¹⁰

(vi) Sirkap excavations of the year 1944-45 brought to light a unique ivory comb¹¹ carved on both sides (Pl. 47 & 48). It consists of a half-elliptical ivory piece with a rectangular section and a slightly raised rim, and with 116 projecting teeth (broken and lost) in the lower part. The carving on one side shows a reclining woman. She rests her palm on denticulated bed-spread, her head on an ovaloid pillow with beaded borders, and her right elbow on a small cushion. The upper part of her body is bare, emphasising the natural folds of flesh. But instead of the conventional three folds, *trivāli*, only two folds are shown in the central portion of the body. The *sārī*, worn around the hips and covering the whole of the right leg and most of the left, is adorned with a series of three horizontal strips occurring at regular intervals. Unfortunately, the face is damaged, but the angularity in the representation of the sharp, pointed nose and chin is apparent. The elongation of the small fish-shaped right eye suggests a collyrium line. The hair is tied with a fillet, and the knot is coiled loosely. She wears a two-stringed necklace made of rectangular beads and provided with terminals, bracelets on the left forearm and heavy anklets. At the head of the reclining lady squats a dwarfish figure with folded legs, wearing a striped loincloth and a necklace. His right hand is lowered, while he seems to carry a wine pot with a lid in the upraised left hand.

The other side of the comb is divided into four zones by three vertical lines. The left zone has the figure of a stylized pouncing lion with an uplifted tail. In the second zone is represented the '*Indra yashiti*' or '*vaijayanti*', with an axe-shaped frame and foliate supports, over which rests an oblong cross-

¹ *Taxila*, II, p. 655, no. 20.

² *Ibid.*, II, p. 655, no. 21; III, pl. 199, No. 21.

³ *Ibid.*, II, p. 656.

⁴ R. C. Agrawal. "Unpublished Bharhut reliefs in the National Museum, New Delhi", *Lalit Kala*, No. 14, pp. 53-65, pl. XVIII, Fig. 2. Though only a male bust is visible clearly, the partly visible shoulder and breast of the female make it clear that actually a couple was shown here and not a male only as wrongly stated by Shri Agrawal.

⁵ L. Bachhofer, *Early Indian Sculpture*, II, pl. 92-93.

⁶ J. Hackin, and others, *op. cit.*, fig. 237.

⁷ *Taxila*, II, p. 656; III, pl. 199, no. 22.

⁸ A. Ghosh, *op. cit.*

⁹ *Taxila*, II, p. 656; III, pl. 199, No. 23.

¹⁰ Please see Chapter III, p. 32.

¹¹ A. Ghosh. "Taxila, (Sirkap), 1944-45", *A.I.*, No. 4, pl. XX.

bar holding the flag.¹ In the third zone appears an ambling elephant with a short tail, the notches on its body probably indicate painted decoration (*bhūti*). There are two rosettes in the foreground. In the fourth compartment appears the auspicious '*daśaśūvarta*' conchshell, the lip turned right. Ghosh see "a partial resemblance in the modelling of the female body",² on this comb with the pliant figures of the Bhutesar Yakshis.³ The petal-shaped eyes, full bust, attenuated waist and exaggerated hips are conventional features in Indian literature, and are common characteristics of the arts of Mathura, Amaravati and Nagarjunakonda. A family likeness can be seen between the Sirkap comb and the Begram ivories. On the basis of its similarity to the Mathura art, Moti Chandra has suggested the possibility of a guild of ivory carvers at Taxila coming from Mathura and keeping alive their tradition.⁴ Seeing the quantity of the excavated ivory articles from Taxila it seems likely that these were manufactured locally. It can be assigned to the later half of the first century A.D. on the basis of its workmanship as well as the stratum from which it was discovered.⁵

Hair pins

Out of the eleven hair pins excavated from Taxila,⁶ three, assigned to the period before the beginning of the Christian era, have already been described. The other eight come from Śaka-Parthian levels, and could be assigned to the 1st century A. D. The early finds from the Bhir mound have plain knob-heads, but the later ones show knob-heads in the form of cocks, combs and pots, etc. Both bone and ivory were used for making hair-pins. We describe below the eight hair pins :

(1) Hair-pin of bone, with head in the form of a cock perched on a tree. Length 9.4 cms.⁷ The bird motif is also seen on early pins from Luristan,⁸ and on those of Greek and Roman origins.⁹

(2) Hair-pin of ivory, with head in the form of an inverted bell capital and incised rings below.¹⁰

(3) Part of bone hair-pin, with wave-shaped head and projecting moulding on either side. Length 8.5 cms.¹¹

(4) Part of a bone-hair pin with head in the form of a cock standing on an abacus (Pl. 49). Length 6.3 cms.¹² The bird, however, looks more like a duck than a cock.

(5) Bone hair-pin, with head in the form of an inverted comb set up on a base, lower part of pin missing (Pl. 50). Length 9 cms.¹³

(6) Bone hair-pin, with head in the form of a cock mounted on a capital. Length 9 cms.¹⁴

(7) Hair-pin of ivory, with head in the form of a pot with three incised circles beneath. Length 9 cms.¹⁵

(8) The object may have been either a hair-pin or a knife handle. It is the head of a bone object of a wavy pattern, somewhat resembling no. 3 described above, but without the side projections. Length 6.3 cms. At the top is a groove with three holes for rivets; the shaft at the other end is broken.¹⁶

¹ Ghosh described it as "an ornamental design of an uncertain object, possibly an altar". It was later correctly identified by Moti Chandra as above, cf. Moti Chandra, p. 19.

² A. Ghosh, *op. cit.*, p. 79.

³ J. Ph. Vogel, *La Sculpture de Mathura*, pl. XIX.

⁴ Moti Chandra, pp. 19-20. The guilds of ivory carvers did exist in the cities of north-west India, as supported by 'Milinda's Questions', II, p. 171.

⁵ It was found in Pit I, and as such, was contemporary with phase III (later half of the 1st century A. D.), cf. A. Ghosh, *op. cit.*, p. 79.

⁶ Taxila, II, p. 656.

⁷ *Ibid.*, III, pl. 206, no. 16.

⁸ R. Ghirshman, *Persia, from the origins to Alexander the Great*, fig. 98.

⁹ Fred W. Burgess, *Antique Jewellery and Trinket*, pp. 115-116.

¹⁰ *Taxila*, III, pl. 199, no. 26.

¹¹ *Ibid.*, pl. 199, no. 29.

¹² *Ibid.*, pl. 204, no. 14.

¹³ *Ibid.*, pl. 206, no. 13.

¹⁴ *Ibid.*, pl. 206, no. 17.

¹⁵ *Ibid.*, pl. 206, no. 22.

¹⁶ *Ibid.*, pl. 199, no. 34.

Antimony rods, ear-cleaners and tooth-picks combined¹

These articles take the form of short rods of bone or ivory and measures from 7 cms to 14 cms in length. If required for applying antimony or kohl round the eyes the rod is slightly clubbed; if required as a tooth-pick or nail-cleaner, it is pointed, if used as an ear-cleaner, it is furnished with a tiny scoop. Finds from Sirkap show only ear-cleaners and tooth-picks combined; the antimony rods are not combined with any other item.

Antimony rods

Sirkap has yielded two specimens which could be assigned to c. 1st century A. D. The one of ivory has both of its ends clubbed and measures 15 cms broken in the middle.² The other specimen of bone is broken at the ends and measures only 9 cms.

Ear-cleaners and tooth-picks combined³

Three of these finds are made of bone, and the fourth is of ivory. The maximum length is 11.8 cms⁴ (Pl. 51).

Mirror and other handles⁵

Metal mirrors and ivory and bone handles have been unearthed only from the Śaka-Parthian levels of Sirkap. They are conspicuous by their absence at the Bhir Mound, which perhaps, led Marshall to remark that "Mirrors are one of the many things introduced from the Greek Orient either by the Greek themselves or by their successors, the Śakas or the Parthians." But mirrors and mirror handles had been known in India earlier, too, and have been excavated from Rupar,⁶ Ahichchhatra,⁷ and Pompeii.⁸ Ladies looking into mirrors are represented in the Bharhut sculptures as well.⁹ The evidence, thus, proves that mirrors were known in India much before the Śakas or Parthians came here and hence they cannot be credited with the introduction of the mirror in India.

Ivory and bone have been favourite materials for mirror handles which were often embellished with charming female figures as borne out by the finds from Pompeii,¹⁰ Ahichchhatra¹¹ and other places.

Taxila finds can be classified into two types (a) those decorated with figure carvings in relief, and (b) those turned on the lathe and decorated with mouldings and incised lines and hatchings.

A) Handles carved in relief

(i) Bone handle, with the figure of a woman carved in relief on one side¹² (Pl. 52). She wears long ear ornaments, necklace, girdle, heavy anklets and bangles. The bone is hollow and measures 16.2 cms. Her facial features have a distinct angularity—the eyes as well as the mouth have been given a triangular treatment. The hair is combed backward. Her breasts are rather flatly treated, perhaps because of the limitation of the material. But the other parts of her body, abdomen and legs, etc., bestow on her a feminine charm.

Marshall described her necklace as having a pendant¹³ but a closer examination makes it clear that actually she is shown holding a small cup in her hand.¹⁴ The back view, especially the spungy lower end (Pl. 53), makes it evident that it was carved out of bone. Her facial features and heavy

¹ *Taxila*, II, pp. 657-58.

² *Ibid.*, III, pl. 206, no. 24.

³ *Ibid.*, II, p. 658.

⁴ *Ibid.*, III, pl. 206, no. 27.

⁵ *Ibid.*

⁶ Y. D. Sharma. "Past patterns in living as unfolded by excavations at Rupar", *Lalit Kala*, No. 1-2, pp. 121-129.

⁷ R. C. Agrawal, "Early Indian bone figures in the National Museum, New Delhi", *E. W.*, 18, nos. 3-4, pp. 311-314.

⁸ J. Ph. Vogel. "Note on an ivory statuette from Pompeii", *A. B. J. A.*, XIII, pp. 1-5.

⁹ A. Cunningham, *The Stupa of Bharhut*, pl. XXIV, 4.

¹⁰ Please see Chapter V, pp. 64-65.

¹¹ Please see Chapter V, pp. 62-63.

¹² *Taxila*, II, p. 668; III, pl. 203, k. (Now in the National Museum, New Delhi).

¹³ *Ibid.*

¹⁴ R. C. Agrawal, *op. cit.*, p. 314, fig. 18.

ornaments as well as the stratum from which it has been excavated make it assignable to the early Ist century A. D.

(ii) Bone handle, of rough workmanship. The woman's hair is dressed in a plain mass on either side of her head. Length 11 cms.¹

(iii) Bone handle showing a standing female figure.² Length 13.7 cms. Her feet and anklets are missing. The woman wears a garland on her head. Numerous stucco and other figures of the Parthian period show similar garlands.³ The 'diamond and reel' motif on her girdle resembles that found in stone carvings of the early Indian school.⁴ The long pendants on either side of the head seem to be suspended from the head dress, not from the ears. There is a socket-hole in the right top corner to take the tenon of the mirror.

(iv) Bone handle showing a standing female figure. The lower portion is slightly damaged and her feet are missing. Her girdle consists of a plain broad band. Length 17.4 cms.

(v) Handle of bone, broader than the preceding specimens, with male and female figures standing side by side.⁵ The male figure (to the left) wears a garment falling over his left shoulder, garland on head, bangles and girdle. The female wears her hair dressed in a double tier, crossed breast chain, bangles, girdle and anklets. One of her hands is held near her breast and the other raised up to her head. She stands with her legs crossed, the right over the left. There are two socket-holes in the top which will mean that it was used to hold a mirror with two tenons, size 11.5×6.3 cms.

B) Lathe-turned handles⁶

(i) Bone handle probably of mirror, turned on a lathe and decorated with incised parallel rings, mouldings and hatching. Length 9 cms.⁷

(ii to iv) similar to above. In the case of one of these the mouldings are more pronounced.⁸

(v) Bone handle as above; but smaller and with deeper mouldings, and transverse hole near the bottom.⁹ It can not be said with certainty if this was a mirror handle. Length 5.3 cms.

(vi) Bone handle with double torus moulding and without cross hatching. Remains of iron fitting at top. Length 6.5 cms.¹⁰

(vii) Bone handle, plain with projecting tenon at one end and two holes pierced transversely across the body. Length 5.9 cms.¹¹

(viii) Similar to above, with broken end.

(ix) Mirror-handle of ivory, with single torus moulding resembling the handle of a Greek mirror from the Bulandibagh at Patna, now in the Patna Museum. Length 6.8 cms.¹²

(x) Sirkap excavations of the year 1944-45 have also brought forward a fragmentary bone object, probably a mirror handle, with elliptical section. It has a hole near the knob. Cracked into two pieces.¹³

(xi) Another example, an ivory handle, has a hole at the butt-end for suspension and three holes at the other end for attaching the pin or whisk and is, therefore, more likely to be a fan-handle or fly-whisk handle.¹⁴ The fan¹⁵ as well as flywhisk¹⁶ were in use in India for a long time and have often found

¹ *Taxila*, II, p. 658.

² *Ibid.*, III, pl. 203, 1.

³ R. Ghirshman, *Iran, Parthians and Sassanians*, p. 80

⁴ L. Nachhofer, *Early Indian sculpture*, I, pl. 39.

⁵ *Taxila*, III, pl. 203, m.

⁶ *Ibid.*, II, p. 659.

⁷ *Ibid.*, p. 659, no. 48.

⁸ *Ibid.*, III, pl. 199, no. 50.

⁹ *Ibid.*, III, p. 199, no. 52.

¹⁰ *Taxila*, II, p. 659; III, pl. 199, no. 53.

¹¹ *Ibid.*, III, pl. 199, no. 54.

¹² *Ibid.*, III, pl. 199, no. 56.

¹³ A. Ghosh, "Taxila (Sirkap), 1944-45", *A. I.*, no. 4, p. 81, no. 13.

¹⁴ *Taxila*, II, p. 659, no. 57.

¹⁵ S. C. Kala, *Terracotta figurines from Kausambi*, pl. XXIII, A.

¹⁶ L. Nachhofer, *Early Indian Sculpture*, I, pl. 30.

representation in the preceeding art of the Śunga period. In such circumstances it is hard to accept Marshall's suggestion of their foreign import.

6. *Handles of knives and other articles*

All these handles have been excavated from the Śaka-Parthian levels and can be assigned to 1st century A.D.

(i) Bone handle of a small knife. Length 6.7 cms. At one end there is a groove with three rivet holes for fixing the blade; at the other a heart and circle design is fretted through the thickness of the handle.¹

(ii) Ivory handle of small knife, with a *triratna* at the butt end of the handle. Length 7.2 cms.²

(iii) Bone side-pieces of a knife-handle decorated with incised circlets and chevrons. Near one end is an iron rivet. Length 8 cms.³

(iv) Similar piece of ivory, without decoration. Two holes for rivets. The ivory is burnt black, and part is broken. Length 5.7 cms.⁴

(v) Similar to the preceding but decoration with incised circlets, two holes for rivets. Length 7.2 cms.⁵

(vi) Bone handle with leaf-shape terminal slightly convex on both sides. Length 9 cms.⁶

(vii) Taxila excavation of 1944-45 has yielded an ivory knife, wedge-shaped in section, from the post-structural pit-4.⁷

7. *Spoon*

A spoon of bone with leaf shaped shallow bowl, whose handle is missing, measures 4.5 cms and proves that bone was used for the manufacture of such domestic items in the Śaka-Parthian age.⁸

8. *Writing Stili*⁹

Out of 13 writing stili excavated from Taxila, two have been found from the Bhir Mound and the remaining 11 from Sirkap. The Bhir Mound examples are heavier than those from Sirkap. Some of these have a fine smooth point, others a ball point. In some, again, the butt is flattened like a chisel for smoothing out the wax; in others it is rounded. The excavation in the year 1944-45 also brought forward two bone stili with broken points.¹⁰

9. *Dice*¹¹

All the playing dice, with the doubtful exception of one only; have been excavated from Sirkap and are assigned to the Śaka-Parthian period. They are made of ivory and bone and are invariably oblong in shape (not cubical) and range in size from 4.5 cms×0.5 cms to 9.3 cms×1.7 cms. The number 1, 2, 3 and 4 are indicated by concentric circles or simple dots and as a rule follow each other consecutively around the four long sides, but occasionally 1 is placed opposite to 2 or 4. All specimens of bone and ivory show different kinds of markings. Sometimes the mark consists of circlets within the circle,¹² sometimes a dot surrounded by two concentric circles,¹³ and sometimes it consists of a group of three circlets surrounded by two concentric circles.¹⁴ In certain cases the ends of the one are also decorated with incised lines and circlets.¹⁵

¹ *Taxila*, II, pl. 660, III pl. 200, b.

² *Ibid.*, II, p. 660, no. 62.

³ *Ibid.*, no. 63.

⁴ *Ibid.*, no. 64.

⁵ *Ibid.*, no. 65.

⁶ *Ibid.*, no. 66.

⁷ A. Ghosh, *op. cit.*, p. 81.

⁸ *Taxila*, II, p. 660, no. 68.

⁹ *Ibid.*, II, p. 660-61; III, pl. 205.

¹⁰ A. Ghosh, *op. cit.*, p. 81, nos. 14-15.

¹¹ *Taxila*, II, pp. 662-663.

¹² *Taxila*, II, p. 663, no. 92a.

¹³ *Ibid.*, p. 663, no. 93.

¹⁴ *Ibid.*, p. 663, no. 97.

¹⁵ *Ibid.*, p. 663, no. 92a, 94, 97 and 98.

10. *Toy furniture or miniature chests*¹

These articles are usually made of ivory (only one of bone), and are referable to the 1st century A.D. They call to mind the toy furniture from Hawara in Roman Egypt.² The fragmentary specimens described below, all from Sirkap, seemingly form part of six different objects—probably small trinket chests, but possibly toy-tables or even bed-steads.

(i) Ivory corner-post of a miniature chest or toy table, with six holes for the attachment of the side pieces. Provided with foot mouldings and decorated on the outer faces with incised horizontal lines and concentric circles. Height 7.3 cms.³

(ii) Corner-post of a box. Lower part rounded by chisel, not turned on the lathe. Ht. 7 cms.⁴

(iii) Ivory corner post, but slightly plainer. Length 6.8 cms.⁵

(iv) Rectangular side-piece of chest or table made of ivory and decorated with incised circles on outer side. Seven peg-holes for fixing legs and top. Size 8.8 cms × 4.3 cms.⁶

(v) Rectangular side piece of chest or table decorated with two rows of double concentric circles between line borders. Length 8.8 cms.⁷

(vi) Excavations in the year 1944-45 yielded a rectangular ivory slab,⁸ oblong in section. The edge of one of the longer sides is grooved and contains four blind holes; the other edges are plain, the longer one having three holes and the shorter ones two each. One face of the slab is bordered all round by an incised row of two concentric circles enclosed within double lines. The centre contains a similar circle enclosed by dots, and is flanked on each side by circles, also similar but enclosed by smaller single circles. This has been excavated from a layer assignable to the beginning of the Christian era. Ghosh was not certain about its purpose⁹ but in all likelihood it seems to be a toy furniture piece.

11. *Check-bars of horses' bridles*¹⁰

The check-bar or check-ring was used with the snaffle-bit to prevent the rein slipping into the mouth. The bone specimens are invariably pierced with two holes in which an iron staple was fixed for the bit rings to pass through. These have been found among the Parthian remains only. One of these is decorated with incised parallel lines and a chevron pattern near the base.¹¹ Another one is decorated with two bands of incised lines round the upper half.¹²

12. *Other finds*¹³

Besides the objects described above, Sirkap has also yielded the following objects :

(i) Bone handle or terminal, broken nt top. Length 6.6 cms.

(ii) Bone handle or terminal with pear shaped head; broken at the other end. Length. 4.1 cms.

(iii) Stopper or terminal of bone. Length 3.2 cms.

(iv) Irregular disk of bone with a number of punctured dots on one surface. Diam 5.7 cms. Probably it was used as a foot-rubber.

¹ *Taxila*, II, pp. 663-664.

² F. Petrie, *Objects of Daily Use*, pl. LIV, 554, 555.

³ *Taxila*, II, p. 664, no. 100.

⁴ *Ibid.*, no. 101.

⁵ *Ibid.*, no. 102.

⁶ *Taxila*, I, p. 664, no. 103.

⁷ *Ibid.*, no. 104.

⁸ A. Ghosh, "Taxila (Sirkap), 1944-45", *A. I.*, No. 4, p. 81, no. 19, pl. XXI, no. 19.

⁹ *Ibid.*, p. 81.

¹⁰ *Taxila*, II, p. 665.

¹¹ *Ibid.*, no. 117.

¹² *Ibid.*, no. 118.

¹³ *Ibid.*, II, p. 666, nos. 126-123.

*The ivory figure from Ter*¹

Ter, or Tagara as it is referred to in the 'Periplus', was a famous city situated on the great trade route across the Deccan. Although the place has been excavated systematically in the recent past,² the ivory figure under discussion is a surface find and is now in a private local collection.³

The ivory shows a female figure (Pl. 54) and measures 16.4 cms.⁴ Her ovaloid face is disproportionately larger than the rest of the body. She has large, attractive eyes, heavy-brows, a big nose with angular nostrils, a large sensual mouth suggesting a faint smile, and a short chin. The torso is flexed, the breasts well developed, and the navel indicated by a deep cavity. The legs below the knees are broken. The knee-caps are treated very realistically. Her hair is parted in the middle, and a 'tilaka chūdāmaṇi' is visible on the forehead. Around the head runs a twisted band with a rosette in the centre, a little below which appears the head jewel.

Although rather flat at the back, the figure is carved in the round. Seen at the back (Pl. 55) are triple plaited hair, the marks of the interplaited ribbons are quite clear in the plaits. The coiffure is mounted with a *reṇī*, its twisted frame has radial ribs and a central rosette, which reminds one of the 'dharmachakra' carved in stones.

The jewellery she is wearing includes a necklace running over the breasts, armfuls of bangles set off with bracelets, armlets, a girdle and earrings. Her right hand touches the rosette shaped earring on the same side.⁵ The left earring has a triangular attachment.

Her diaphanous *sārī* emphasises her nudity: its end tucked behind may be seen at the back (Pl. 55). The plaited ends of the *patkā* are passed through the rolled up waistband with loose ends. A little below the waistband appears the beaded zone.

The figure has a vertical aperture in its head. It is 9.7 cms on top and runs up to the navel, a depth of 8.7 cms.⁶ A similar aperture also exists in the head of the Pompeii figure.⁷ Worth noticing again, are two perforations just below the knee, one in each leg. The perforation in the proper left still retain in position a corroded fragment of an iron pin. A third hole is also bored in the hanging part of the garment on the right side⁸ just where a portion of the figure is damaged. This, hole which also retains a fragmentary iron pin, is not visible in any of the photographs.⁹ The purpose of these holes apparently is for fixing the figure to some object with the help of metal pins, perhaps to a toilet box. But then the question arises that if it was to be fixed to something, why was it carved in the round?

The hole in the head and the carving in the round indicate that the figure was originally meant to be a mirror handle like the Pompeii figure. The smaller holes and iron pins, however, suggest that subsequently it was fixed to some box, etc.

As to its dating and provenance, opinions differ. Barrett¹⁰ compares its workmanship with that of the figures on the Great Stupa at Sanchi, and suggests North-west Deccan or Malwa as the region of its origin, and a date in the 1st century A.D. Moti Chandra,¹¹ on the other hand, finds its parallel in the middle phase of the Amaravati art, and assigns it to the 2nd century A.D. However, he suggests Ter or

¹ (i) D. Barrett, *Ter*, p. 8, (ii) Moti Chandra, "An ivory figure from Ter", *Lalit Kala*, No. 8, pp. 7-10.

² It is surprising that no ivory find was made during the excavation, Ref: Letter No. MGD 1069 dated 20th June, 1970 from the excavator, Dr. M. G. Dikshit, Director of Archaeology, Maharashtra Government. It was, however, a small scale excavation.

³ Sri Ramalingam, *Ter*, collection. Besides this figure, the collection has yet another ivory statue, a bone figure, ivory pieces of diāe and an ivory hair pin.

⁴ M. N. Deshpande, "Some observation on the ivory figure

from Ter", *Lalit Kala*, No. 10, p. 55.

⁵ The Pompeii figure also touches her earring. Please see Chapter V, pp. 64-65.

⁶ This point was missed by Douglas Barrett and Moti Chandra. M. N. Deshpande was first to notice it.

⁷ A. Maiuri, "Statuetta eburnea di Arte le Indiana a Pompeii", *Le Arte*, Anno I, fasc. II, pp. 111-115.

⁸ M. N. Deshpande, *op. cit.*, p. 55.

⁹ *Ibid.*

¹⁰ D. Barrett, *op. cit.*, p. 8.

¹¹ Moti Chandra, pp. 24-25.

Dhanyakataka as the place of its origin. Deshpande¹ firmly believes in its local origin and even suggests that Ter had an ivory carvers' guild like the one at Vidisā. He has tried to show the similarities between this ivory figure and the Ter terracottas.

The *Periplus*² has mentioned Ter or Tagara as one of the two important marketing towns of the Deccan, the other being Paithan; and it was connected with the important seaport of Broach or Barygaza. We are further told³ that ivory was exported from Barygaza. These circumstances, as well as various other ivory finds from the very surface, indicate that perhaps Ter was a centre of ivory production and that the ivory figure in question was made locally. This is further confirmed by the terracotta finds,⁴ with which the ivory shares the following characteristics: the forehead partly covered by the parted hair and the central jewel, the heavy eye brows, the straight nose, sensual lips and fleshy cheeks. The arrangement of hair on the back side of the head in triple plaits with one or more round clasp or rosettes decorating the plaits is another feature common to the Ter ivories and terracottas. The necklace falling below the breast, as also the ear ornament, are the other affinities which attract attention.

On the basis of similarities noticed above, the date suggested by Moti Chandra, i.e. 2nd century A.D., seems quite plausible. The Ter workmanship in clay as well as ivory shows the influence of Amaravati on the one hand, and of Karla-Kanheri on the other. The location of Ter, midway on the ancient trade route, explains the combination of these artistic influences. That Ter had its own artistic style, influenced by the neighbouring art schools, is further proved by the peculiar kaolin mixture in the Ter terracottas and the distinct slip they have. The city was in close touch with the Roman world, as is proved by the finds of Roman lamps and other antiquities.⁵ Some influence of Roman art is discernible in the realistic treatment of the facial features and the slight droop of the breasts suggestive of their soft fullness.

Moti Chandra has identified the figure as '*Strī-ratna*' of the '*Chakravartin*' motif, as she is shown touching her earring.⁶ But this is at best a subjective conjecture. A woman's hand toying with her dangling ear-ring is a fairly common sight in daily life; she is elated with her jewellery, always proud of it, always conscious of it when she wears it. Naturally, too, as it enhances her loveliness. This lady was meant to serve as the handle of a bewitching mirror, and any search for the *Chakravarti's strī-ratna* here will certainly be unrewarding.

Ivory fragment from Kandapur (A.P.)

Kondapur, 43 miles west-north-west of Hyderabad in Andhra Pradesh, is a Satavahana site, and has yielded some very interesting terracotta figurines.⁷ The excavations has also yielded an ivory piece,⁸ which, though fragmentary, provides very interesting corroboration of a popular historical episode—the abduction of Vāsavadattā by Udayana.⁹ The scene is shown in the form of a narrative. The prince charming carries away his darling princess to the bewilderment of the man who looks on. Then the royal couple is shown mounted on the back of the elephant. The lower band of the panel shows a four-petalled flower pattern, a motif continuing from Harappan times.

Although the facial details are obliterated,¹⁰ the figures bear resemblance to the Kanheri pillar-capital figures, and could be assigned to the 2nd century A.D. Deshpande is of the opinion¹¹ that this plaque was carved at the nearby ancient city of Ter or Tagara, which, according to him had a guild of ivory carvers.

¹ M. N. Deshpande, *op. cit.*, p. 56.

² W. H. Schoff, (Tr.), *The Periplus of the Erythraean Sea*, p. 43.

³ *Ibid.*

⁴ M. N. Deshpande, *op. cit.*, pl. XXXVI, fig. 2.

⁵ *Ibid.*, p. 56

⁶ Moti Chandra, *op. cit.*, p. 10.

⁷ P. Sreenivasachar, *Kondapur*, pp. 8-9.

⁸ *Ibid.*

⁹ Moti Chandra, p. 21.

¹⁰ One of the Begram panel also has a remarkable resemblance to this piece, cf. *Marg*, XXIV, no. 3, fig. 56.

¹¹ M. N. Deshpande, *op. cit.*, p. 56.

Ivory spacing bead from Śiśupālgarh

Śiśupālgarh, in ancient Kalinga near Bhubaneswar, has been variously identified with Tosali and Kalinganagara and was excavated by the Archaeological Survey in the year 1948.¹ An interesting find² from the 'Habitation Area' was that of an ivory spacing bead (Pl. 56) with elaborate carving showing on one side a four-petalled flower, flanked by a couple of ducks, and on the other three flowers, each having four petals. These flowers resemble those in the floral row at the base of the Kondapur plaque,³ and the ducks remind one of those depicted on Begram ivories.⁴ On the basis of the level from which it was excavated, as well as style, the piece can be assigned to c. 1st—2nd century A.D.

*Nevasa ivory finds**(i) Ivory Bangles*

Nevasa seems to have been a centre of the ivory bangle industry in its Vth period, assigned to c. 50 B.C.—c. 200 A.D.⁵ This is proved by the bangles found here as well as by the ivory rods incised with outlines of the bangles. The bangles found were either plain or decorated, but they were made in the same way. A big hollow rod of ivory was taken and bangles were marked on it as it was turned on a lathe.⁶ Then these were cut loose from the surface of the thick rod. Rings were taken off similarly from the smaller rod remaining. Such rods with bangles outlined were excavated from the period V layers, besides many bangles as well.

(ii) Waste Discs

When the ivory rod was exhausted by the process of taking out rings or bangles from it, what remained was a very thin disc at one end. Seven such discs were found. Four discs were excavated from period Vth⁷ attesting to the local existence of the bangle industry.

(iii) Decorated Bangles

Twelve fragments of very thin bangle pieces of ivory were excavated from the Vth period at Nevasa.⁸ These pieces are remarkable for their thinness, as also for the precision in the decoration of their outer surfaces with tiny designs. Some of these were even painted in red, and thus offered a pleasing contrast to the white surface, a technique used by the Harappan artists as well.⁹ The breadth of the surface varied between 15 mm. and 18 mm. and the thickness between 3 mm. and 4 mm.

(iv) Dice

A pair of dice, one complete and the other fragmentary, was excavated from Period Vth. Both of them are square in section and shape. The complete specimen shows circles marked on all the four faces. The other specimen has no marks. It appears to be an unfinished specimen indicative of local origin.¹⁰

(v) Bone Points

Nineteen complete and three fragmentary bone points were found at Nevasa,¹¹ and of these 14 have been excavated from Period V, thus making it the most productive period. They can be classed in the following four categories :

(i) Bi-conical in outline, with the body flaked off to sharp ends—6 specimens.

(ii) Cylindrical body and abruptly pointed end—6 specimens.

¹ B. B. Lal, "Śiśupālgarh 1948: an early historical fort in Eastern India", *A. I.* No. 5, pp. 62-105.

² *Ibid.*, pl. XLIX, B.

³ Moti Chandra, *op. cit.*, pl. 2 c.

⁴ *R. A. B.*, pl. LXXI, fig. 221.

⁵ H. D. Sankalia, and others, *From history to prehistory at Nevasa, 1954-56*, p. 64.

⁶ *Ibid.*, p. 465.

⁷ *Ibid.*

⁸ *Ibid.*

⁹ Please see Chapter III, p. 36.

¹⁰ H. D. Sankalia, *op. cit.*, p. 467.

¹¹ *Ibid.*, p. 451.

(iii) With five grooved points—2 specimens.

(iv) Tanged—1 specimen.

Some of these have smooth and polished surfaces, owing to long use.

(ii) *Bone rings*

All the three specimens came from Period V and had a plano-convex section. Their maximum diameter was 27 mm. and maximum thickness 4 mm.¹

(vii) *Ivory comb*

Out of five fragmentary combs found at Nevasa, only one came from Period V.² Its teeth are close set, thin and rounded at the tips, which shows the skill attained by the ivory carvers and also use of fine tools-saw, etc.

(viii) *Ivory handles*

Two ivory handle pieces covering the tang portion of some objects were found from Period Vth.³ These are mostly cylindrical pieces with a tapering hollow interior. The usual form of decoration was groups of grooves on the exterior.

(ix) *Bone kohl-sticks*.⁴

Out of the total recovery of seventeen complete and five fragmentary kohl-sticks of bone, ten were found from stratum V. Their shapes vary, and could be classified as follows :

(a) With pointed and sharp knobs at one end—3 specimens.

(b) With tapering body and flared and grooved or undergrooved head—5 specimens.

(c) With highly decorated heads—1 specimen.

(d) With a plain body and a thick head.

The finds of some unfinished specimens which could be classed under category (b) above, show that they were perhaps produced locally.

Ivory and Bone finds from Tripuri

Tripuri, now represented by the modern village Tewar, lies on the Jabalpur-Bheraghat Road in Madhya Pradesh. Besides yielding many stone sculptures, inscriptions, terracottas, etc., its excavation also brought to light the following ivories :

(i) *Ivory comb*

A small ivory comb was found in the debris accumulated on the floor of Vihara 2⁵, and is contemporaneous with stratum IV, assignable to 100 B.C.—200 A.D. It consists of a rectangular ivory piece, slightly splayed at the base, elliptical in section, with a small depression on the holder for a convenient grip. It has 43 projecting teeth. The two on the extremities are fashioned thicker than the rest.

The main importance of this find lies in the fact that it was discovered from a Buddhist Vihara. According to the Vinaya Texts,⁶ the use of a comb was forbidden to the Bhikshu who lived in the Viharas. The discovery indicates that the laws were not very strictly adhered to in later times. It may also be possible that the comb originally belonged to some visitor to the monastery.

(ii) *Ivory kohl-stick*⁷

The ivory kohl-stick which is broken at both the ends, is about 15.3 cms long. It has a tapering

¹ H. D. Sankalia, *op. cit.*, p. 454

² *Ibid.*, 467.

³ *Ibid.*, p. 469.

⁴ *Ibid.*, p. 458, pl. 194.

⁵ M. G. Dikshit, *Tripuri-1952*, p. 131, pl. XLIII.

⁶ *Chullavagga*, V, 2, 3.

⁷ M. G. Dikshit, *op. cit.*, p. 131, pl. XLIII.

body and a prominent ridge, square in section at one end, which was capped by a holder which is now missing. Similar finds prove that this holder was probably bud-shaped. It was excavated from the stratum IV and is assignable to c. 1 to 200 A.D.

(iii) Another bone object is a small cylindrical piece of uncertain use, with a depressed centre on one side and a lateral hole running through it. It is prepared out of the long bone of some animal and is very crudely finished.¹

(iv) A small fragment of an ivory dice is roughly lenticular in section, with small circlets indicating an uncertain number.

Avra ivory sealing

Excavation at Avra yielded an inscribed circular ivory sealing with a diameter of 1.25 cms.² It is conical in section and has a miniature round apex serving as a catch. It was obtained in a burnt layer, and its jet black colour shows the effects of burning. It is inscribed with the legend 'Jidharasa' in characters of the 3rd century A.D.³

Maheshwar and Navdatoli dagger pendant of bone

A single specimen of what appears to be a dagger pendant was excavated from Period VI of the site assignable to 100—500 A.D.⁴ The find shows only the hilt portion of a dagger, blade not extant, and is decorated with incised irregular squares. It is 27 mm. long and 6 mm. thick.

A number of dagger pendants of ivory and bone have been excavated from other ancient sites.⁵ All these belong to the Mauryan period. Thus, the find of this fragment from Kuṣāṇa levels indicates its use in that period as well.

Ahar finds

Though primarily a chalcolithic site, Ahar continued to be occupied up to the Kuṣāṇa period, as is evident from Indo-Greek coins and painted wares of the Kuṣāṇa period.⁶ Excavations at the site yielded a number of bone items, two of which came from Kuṣāṇa levels.

(i) Ground bone tool

A chisel like flat point made on a thick splinter of bone by grinding. Its sides bear rubbing marks.⁷

(ii) Bone points⁸

An arrow head of bone, chipped and ground, with its tip broken. The tang is made by rough chipping. Length 9 cms.

Bone objects from Nasik and Jorwe

(i) Bone points, etc.

Excavations at Nasik and Jorwe have yielded a number of bone objects.⁹ Layer Vth, which falls within the scope of our discussion, has yielded nine specimens of bone points. One of these is painted black and decorated with incised lines. Some others have double ball points.

(ii) Modelling tool and stylus handle¹⁰

A double, ball-pointed, modelling tool, with the other end broken, was also found at Nasik

¹ M. G. Dikshit, *op. cit.*, p. 132.

² H. V. Trivedi, "Excavations at Avra", *Jr. of the M. P. Itihasa Parishad*, No. 4, p. 40.

³ *Ibid.*

⁴ H. D. Sankalia, and others, *The excavations at Maheshwar and Navdatoli*, 1952-53, p. 22.

⁵ V. P. Dwivedi, "Ivories of North West India", pp. 2-7 (A paper read at the Los Angeles Seminar on Indian art, Oct.

1970).

⁶ H. D. Sankalia, and others, *Excavations at Ahar (Tambavati)*, 1961-62, p. 6.

⁷ *Ibid.*, p. 213, no. 5.

⁸ *Ibid.*, p. 213.

⁹ H. D. Sankalia, and S. B. Deo, *Report on the excavations at Nasik and Jorwe*, pp. 119-141.

¹⁰ *Ibid.*, p. 122.

The ball point is but one projection, supporting another minute one, cross-section oval with flattened sides, honey-brown colour. Size : $90 \times 11 \times 7$ mm.¹

Another example² is probably the handle of a stylus. It is broken at one end and has a circular longitudinal groove at the other truncated end for the insertion of a part of a metal rod. It is dark brown in colour, size : 38×9 mm.

A peculiarity of the above mentioned two examples is that they show deliberate and rough bevelling opposite the supposed working end. Possibly the bevelling was for attaching them to a handle. Their very small length and rough bevelling suggest that these were not originally meant to be attached to a handle. The present conversion took place only after the other end broke.

(iii) *Bone points from the Andhra workshop*³

A sample collection of 1,499 workable and 17,868 broken specimens was picked up from the site, which has been designated as 'Andhra-workshop' by the excavators. Many more were left behind. All these specimens show signs of flaking and some of polishing, and produce a high metallic sound. But the most surprising fact is that the collection does not show specimens in different stages of production as one would expect. The specimens, however, show varying shapes and sizes, and could be divided into two types :

(a) double-ended points and (b) tanged-points.

The sharpness of the points shows that these were made with metal knives from long bones, some of which could be cattle-bones. The curve at the tip of the specimens is intentionally made.

As to the purpose of these points, several suggestions have been advanced. Their variety, however, suggests many uses—as arrow heads, stylus and comb-teeth for weaving. Yet there are many varieties, bent, curved or wavy, whose probable use is still a matter of guess.

Ivory seal from Dharnikota, District Guntur, A.P.

Excavations at Dharnikota, District Guntur, A.P.⁴ yielded an ivory seal from the layers of Period VI. The round seal shows a stupa with railings and has a four letter inscription (Pl. 57), all these enclosed within a border. The back has a knob to hold and makes it look like some pot-lid.

On palaeographic grounds the seal may be ascribed to 2nd-3rd centuries A.D., which is fully consistent with the date assignable to the Satavahana coins found with it.⁵

*Two fragmentary ivory handles from Ariamedu, near Pondicherry*⁶

(i) Explorations at Ariamedu yielded a fragment of a handle of plano-convex section, divided into zones by raised bands, the sides containing atleast two mortices, and the intervening space is decorated by rosettes. The intervening spaces in between the raised or deeply carved designs consist of floral and creeper motifs.

(ii) A long piece of ivory, elliptical in section, divided into zones with parallel incised lines. It looks like the part of a handle. Both these could be assigned a 2nd cent. A.D. date.

*Pierced ivory dagger from Sankaram, Distt. Vizagapatam, A.P.*⁷

The pierced ivory dagger was probably used as a pendant ornament. The knobbed end would seem to indicate that it was sheathed. The end of the handle is trefoil. Similar dagger shaped pendants have been reported from Taxila also. This, too, could be assigned a date in Kuṣāṇa period, i.e. 2nd cent. A.D.

¹ H. D. Sankalia, and S.B. Deo, *Report on the excavations at Nasik and Jorwe*, p. 122 no. 187.

² *Ibid.*, no. 620, p. 122.

³ H. D. Sankalia, and others, *op. cit.*, pp. 124-128.

⁴ *I. A. R.*, 1964-65, p. 2, pl. II, c.

⁵ *Ibid.*, p. 3.

⁶ M. Wheeler; A. Ghosh and Krishna Deva, "Ariamedu: an Indo-Roman trading-station on the East Coast of India", *A. I.*, No. 2, pl. XXXVI, B.

⁷ *A. R. A. S. I.*, 1907-08, pp. 170-171, p. LIN, fig. 24.

Standing bone female figure from Jhusi¹

The bone find shows a standing female figure carved in low relief, portion below the waist is missing (Pl. 58). Though facial details are obliterated, yet the figure is marked by prominent breasts, slender waist and heavy hips. She is adorned with *tilakacūdāmani*, a heavy necklace and a girdle composed of three strands, all distinctive features found on stone sculptures of the Kuṣāna period from Mathura. The facial expression further corroborates its Kuṣāna workmanship of 2nd cent. A.D. The reverse of the plaque shows a rather heavy hand, which does not go with the delicate features of the lady. Perhaps the plaque had more than one figure carved on it when complete.

PART B

IVORY AND BONE CARVINGS FROM BEGRAM

Introduction

Situated some fifty miles west of Kabul, Begram was the summer capital of the Kuṣāna emperors. Kaniṣka used it as a residence for the hostages from the Chinese States of Central Asia. Extensive excavations² at the site by the French archaeologist from 1937 to 1940 revealed the cellar rooms of the palace, their walls lined with a bluish plaster, and filled with the remains of great storage jars. The discovery of a large hoard of Indian ivories along with statuettes, glass and metal utensils, plaster moulds from the Near East and Chinese lacquer wares, surprised the archaeologists. Ivory plaques alone numbered about 600,³ and form the basis of our studies here.

These ivories form a most interesting lot. On the one hand they fill a blank, since, apart from textual information, we had very little knowledge concerning sculpture on ivory; on the other, they supply valuable data as regards their use.

In certain cases the excavators were able to reconstitute the finds by taking exact measurements of their imprints, in spite of the fact that the wooden frames to which they were attached had entirely crumbled away. The ivory and bone plaque were secured on the framework by means of brass nails, the remains of some of which could still be seen.⁴ Further, large sheets of mica were inserted between the wood and the ivory.⁵ The whole structure was held together by means of inch-long nails, and reinforced at the extremities by long brass clamps.⁶ At times floral shaped brass clamps were used to keep in harmony with the patterns.⁷

The mingling in the Begram treasure of Alexandrian, Indian and even Chinese wares is symptomatic. This discovery shows how works of art were appreciated and sought after, besides revealing the diversity of models used by the artists of that region.

Technique of Begram ivories

The Begram finds can be broadly divided into two categories: (i) bands and (ii) decorated panels or plaques. The bands are almost of the thickness of two millimetres, but the decorated plaques have a thickness of 10 to 12 mm. On certain bands the decoration has been engraved with a stylus. The aquatic birds appear in profile, holding in their beaks a twig of Asoka tree;⁸ their feathers are marked by checks and their bellies and tails are hatched lightly.⁹ The stylised

¹ V. P. Dwivedi, "A bone and an ivory carving from Jhusi", *Journal of Indian Society of Oriental Art*, N. S. IV, p. 105.

² (i) J. Hackin and M. J. Hackin, *Recherches Archeologiques a Begram*, 2 vols.

(ii) J. Hackin, and others, *Nouvelles Recherches Archeologiques a Begram*, 2 vols.

³ Owing to the agreement between the Delegation Archeologique Francaise on Afghanistan and the Afghan Government, all exceptional pieces found in the excavations were given to the Kabul Museum and the remainder

was divided between that Museum and the Musée Guimet in Paris.

⁴ Musée Guimet, Paris, Art of Afghanistan gallery, show-case no. 60.

⁵ J. Auboyer, "Ancient Indian ivories from Begram, Afghanistan", *J. I. S. O.* 1, 16, p. 35

⁶ *Ibid.*

⁷ Musée Guimet, Paris, Art of Afghanistan gallery, show-case no. 59.

⁸ *R. A. B.*, pl. LXIX, fig. 215 and 216.

⁹ *Ibid.*

rosettes above the birds are slightly hollowed. This simple expedient is repeated in a number of plaques. The tendency to scoop leaves and petals is at times accentuated.¹

The figures are outlined with deep cut lines, and, although only lightly modelled, give a wonderful impression of depth.² In some scenes with human figures the contours of the figures are shown with double outlines.³ The variations in the technique yield the following interesting examples :

(i) the undecorated zones are eliminated by scooping, with the result that the decorated part comes out in light relief.⁴ The transition from simple engraving of flat relief by scooping and hollowing the non-decorated zones is illustrated in several pieces; (ii) The contour is lightly incised; the zone to be decorated is lightly scooped; and on this surface the craftsman does the relief work resulting in 'relief in reverse'.⁵ This technique reaches its perfection in the bigger plaques. The deeply incised contour yields a shading which admirably gives the effect of modelling.⁶ The anatomical details are rendered with a great virtuosity. The composite motifs on the borders give an example of this technique.⁷

In certain plaques the classical formula of a very much accentuated relief as in wood work is followed.⁸ The artist was not satisfied by chamfering this undecorated surface, he eliminated it.

The use of colours

The plaques and bands show traces of painting in which red predominates. Floral and animal designs on a red ground are very effective. Light red pigment was used by Harappan artists also.⁹ Black was used at times to accentuate the contours of the figures; the hair was also painted black and so also the pupils of the eyes.¹⁰ No other colour seems to have been employed.

LIFE DEPICTED ON BEGRAM IVORIES

Buried in the underground chamber for several centuries, all the Begram ivories suffered from the prolonged humidity of the ground, yet they provide us with most valuable data about contemporary life. Various facets of life, as portrayed on these panels, are discussed below :

(i) Toilet and adornment scenes

Toilet and adornment seem to have been the main occupation of the ladies portrayed on these plaques. They are seen looking at themselves in a mirror¹¹ (Pl. 59), combing their hair,¹² anointing their bodies with sandal paste¹³ and soles of their feet with lacquer,¹⁴ adorning themselves with jewellery,¹⁵ flowers and garlands.¹⁶ Some others are seen reclining on a day-bed¹⁷ or sitting amongst the Aśoka tree on an ornamental stool.¹⁸ Maid servants hasten to help them, carrying pots¹⁹ (Pl. 59), baskets of jewels,²⁰ spice-boxes, pots of pomade, etc. and some others cool their mistresses with fans²¹ and fly-whisks.²² One maid is trying to put anklets on the feet of her mistress.²³ Sitting in the shade of an

¹ R. A. B., pl. LXIX, fig. 215, 216.

² *Ibid.*, pl. LVIII, fig. 176; pl. LX, fig. 182.

³ *Ibid.*, pl. LXVII, fig. 206 and 207.

⁴ *Ibid.*, pl. XXIX, fig. 65; pl. XXX, figs. 66 and 67.

⁵ *Ibid.*, pl. LVIII, fig. 176, pl. LX, fig. 182.

⁶ *Ibid.*

⁷ *Ibid.*, pl. LXI, fig. 184.

⁸ *Ibid.*, pl. LXVIII, figs. 208, 211 and 212.

⁹ Please see Chapter III, p. 36.

¹⁰ R. A. B., pl. LIX, fig. 181.

¹¹ *Ibid.*, pls. LII, figs. 146, 147; LVII, 175; LVIII, 176;

LXVIII, 212 and N. R. A. B., figs. 8 and 9.

¹² N. R. A. B., fig. 45 (No. 192 f) and 49 (No. 192 j) and 68

(No. 346 b).

¹³ *Ibid.*, fig. 23 and 668.

¹⁴ *Ibid.*, fig. 141.

¹⁵ R. A. B., pl. XXIX, fig. 65; pl. LVIII, fig. 176, and fig. 13 and 664.

¹⁶ *Ibid.*, fig. 27 and 666.

¹⁷ *Ibid.*, fig. 135.

¹⁸ N. R. A. B., fig. 20 and 661.

¹⁹ R. A. B., pl. LIX, fig. 175.

²⁰ *Ibid.*, fig. 181; N. R. A. B., fig. 30.

²¹ N. R. A. B., figs. 134, 135 and 135.

²² *Ibid.*, fig. 39, 61.

²³ N. R. A. B., fig. 76.

Aśoka¹ or banana tree, mistresses and attendants partake of delicacies which they share with pets such as ducks² or parrots.³ Elsewhere they pluck Aśoka boughs⁴ or amuse themselves with a bell⁵ or a swing.⁶

These women, whose representations are innumerable, wear a long striped *dhōṭī*,⁷ numerous jewels⁸ and an elaborate headdress, varying from thick striped and beaded turbans;⁹ embellished with pins¹⁰ or Aśoka twigs,¹¹ to knotted coils¹² and light diadems.¹³ Mistresses and maids are dressed and adorned in a very similar fashion,¹⁴ and the little girls wear the same dresses and jewellery as the women.¹⁵

(2) *Dancing scenes and musical instruments*

Scenes showing female musicians and dancers providing entertainment to their mistresses are also seen.¹⁶ However, a noteworthy point at this stage is that the witness to all these dancing performances are all females.¹⁷ Males are rather conspicuous by their absence. The female orchestras generally accompany a dancer, and are composed of cymbals, a drum, an arched harp (*vīṇā*), a flute and perhaps, also, the clapping of hands.¹⁸ In this case the drum might have been of the shape of an hour glass; in others, it is pot-bellied, and the tightening cord seems to be laced "w" wise.¹⁹ The male musicians, shown on two ivory bands, are a kind of dwarf. They use cymbals,²⁰ drums and horn with an upward curved bell.

(3) *Hunting or 'śikārgāh' scenes*, which became very popular in Medieval Orissan ivories,²¹ seem to have been quite popular with Begram artists, where several such plaques have been found. These plaques show the wild animal hunt in various ways: the wild bear, the gazelle and the stag with a boar-spear or a lance;²² the elephant and the agile feline with a bow and arrows;²³ the bull is ensnared with a strong knotted rope.²⁴ The huntsman often wears a sheathed knife in his belt and a shield for protection.²⁵

(4) *Absence of male figures*

The most striking fact about this collection is the nearly constant absence of male figures. Horsemen,²⁶ hunters,²⁷ a mahawat,²⁸ one or two Rājās²⁹ and some mythical characters are all that are to be found. It is quite possible that this absence of male figures was deliberate and that it corresponds to the well known fact that no man—except the master and the old guardian (*kañchukī*) of the gynaeceum—could have access to the private apartments reserved to women.³⁰ If this interdiction was applicable to the decorations on these plaques, then it can be concluded that these ivory plaques belonged to toilet depicting private 'harem' or female apartments of the royal household.

On the other hand, Moti Chandra has argued³¹ that intimate glimpses of the life of women we get on these plaques could not be obtained by the artists unless they had access to it, which was not possible in a royal female apartment. It may thus be that for their models the artists depended on

¹ N. R. A. B., fig. 12.

² *Ibid.*, fig. 22.

³ R. A. B., pl. LIX, fig. 181.

⁴ N. R. A. B., fig. 663.

⁵ *Ibid.*, fig. 26 and fig. 662.

⁶ *Ibid.*, fig. 140.

⁷ R. A. B., pl. LXVII, fig. 207.

⁸ *Ibid.*, pl. LVII, 175.

⁹ N. R. A. B., fig. 9.

¹⁰ *Ibid.*

¹¹ *Ibid.*, fig. 663.

¹² *Ibid.*, fig. 21.

¹³ R. A. B., pl. LIX, fig. 181.

¹⁴ *Ibid.*

¹⁵ N. R. A. B., fig. 10.

¹⁶ *Ibid.*, fig. 129 and 130.

¹⁷ *Ibid.*

¹⁸ *Ibid.*, fig. 131.

¹⁹ *Ibid.*, fig. 21 (for details see fig. 658).

²⁰ R. A. B., pl. XXXII, fig. 71 and 72.

²¹ V. P. Dwivedi, "Ivoires Indiens," *Arts Asiatiques*, XVI, pp. 59-67.

²² N. R. A. B., figs. 117, 122, 124.

²³ *Ibid.*, figs. 102 to 107.

²⁴ *Ibid.*, figs. 106 and 107.

²⁵ *Ibid.*, fig. 124.

²⁶ *Ibid.*, figs. 117 and 125.

²⁷ *Ibid.*

²⁸ *Ibid.*, fig. 108.

²⁹ *Ibid.*, fig. 127.

³⁰ In the *Rāmāyana*, when Vālmīki describes Rāvana's inner apartments in *Sundara kāṇḍa*, he mentions only the females and no male except Rāvana himself.

³¹ Moti Chandra, p. 36.

the magnificent establishments of the royal courtesans which were, if contemporary literature is to be believed, in no way inferior in pomp and show to the royal palaces.¹ Emphasis on toilet and adornment, garden life, music and dancing also strengthen this theory.

(5) Mythical creatures

The animated throng of human and animal figures live in the midst of another world composed of mythical and hybrid-beings, quite as numerous and varied: various species of monster-like men,² yakṣas, with or without wings,³ generally in the role of telamones, gāpas bearing garlands or yakṣas carrying *pūrṇaghaṭas* (Pl. 60), *kinnara* and *kinnarī* (half men and half birds)⁴ and a man with his legs being swallowed by two makaras. From the animal kingdom, monsters, such as leogryphs, winged felines and lions,⁵ polyccephalic snakes or Nāga⁶, Garuḍa,⁷ *makara*,⁸ etc. play a part in a great number of decorative compositions. Beings of an even more composite nature are also to be met with, a man with the horns of a ram and the body of a lion,⁹ griffins, etc. These mythological people form a kind of background against which stand out the figures of real human beings and animals.

(6) Animals and birds

Elephants,¹⁰ horses¹¹ and buffaloes¹² are shown being used for conveyance and hunting. Lions,¹³ bulls¹⁴ and deer¹⁵ also find place on these plaques. But it is in the portrayal of domestic pets that the Begram artists excels. The geese in play nibble the trailing hair of the woman¹⁶ (Pl. 61), the ducks beg for tit-bits,¹⁷ the peacocks are fed high on their perch,¹⁸ the parrots alight unceremoniously on their mistresses' arms or laps.¹⁹ *Śuka kṛīḍā* has always been a favourite pass-time of the ladies and its portrayal abounds in literature²⁰ and arts.²¹

Scenes such as a cat chasing a bird (Pl. 62), though rare, make us believe that the artists picked up their themes from day to day scenes noticed in the royal harems. A decorative frieze showing flying geese is quite attractive and reminds one of the similar portrayal of the bird on the Aśokan pillar capital.²²

(7) Architectural background

The above mentioned scenes are enacted in a simplified setting where a tree may suggest an arbour,²³ and a door a dwelling.²⁴ In spite of this simplification the ivories of Begram supply us with priceless architectural information, for, in no stone relief nor mural paintings have such *torāṇas*, nor such portals, decorated in so fine a manner, been found. The *torāṇas* vary from the simplest one-linteled type²⁵ to the more elaborate one with three lintels,²⁶ covered with a profusion of symbols (Pl. 63). A type of *torāṇa* peculiar to Begram displays architraves composed of the assembled bodies of four or five headed nāgas.²⁷ Below these *torāṇas* stand charming female figures, busy at their toilet, etc. (Pl. 63). Whenever the door is shown, it is always open and one can sometimes make out through the opening

¹ *Mṛcchakatika*, IV, 28/30.

² *R. A. B.*, pl. LXI, fig. 184; *N. R. A. B.*, fig. 179.

³ *N. R. A. B.*, fig. 167.

⁴ *Ibid.*, fig. 184.

⁵ *R. A. B.*, pl. XLVII, fig. 113 to 115; pl. LXIV, fig. 194; & *N. R. A. B.*, fig. 156.

⁶ *N. R. A. B.*, figs., 91 and 92.

⁷ *N. R. A. B.*, figs., 175 to 177 and 180-181.

⁸ *R. A. B.*, pl. L, figs. 130-131.

⁹ *Ibid.*, pl. LVII, fig. 173.

¹⁰ *R. A. B.*, pl. LVIII, fig. 178; *N. R. A. B.*, figs. 119-120

¹¹ *Ibid.*, pl. LVI, fig. 164, pl. LVIII, fig. 180.

¹² *Ibid.*, pl. LVII, fig. 174.

¹³ *Ibid.*, pl. LXXVII, fig. 235.

¹⁴ *Ibid.*, pl. LV, fig. 159; pl. LXXXVI, fig. 232.

¹⁵ *Ibid.*, pl. LVI, fig. 165.

¹⁶ *N. R. A. B.*, fig. 49.

¹⁷ *R. A. B.*, pl. LXXI, fig. 221.

¹⁸ *N. R. A. B.*, fig. 30.

¹⁹ *R. A. B.*, pl. LIX, fig. 181; *N. R. A. B.*, fig. 83.

²⁰ *Amaraṇ Sataka*, 15.

*Dampatyarniṣṭi jalpaṅgarhaṣukena-a-ākarpitam yadvacah.
Tatpṛatarguru sannidhau nigaditah śrutvaiva tarāṇi vadhuh.
Karpālambita padmarāga śankalanī vinyasya cañevāh pite.
Vīḍāṇā prakaroṭi dāḍima phalavyūjena vāgbandhanan.*

²¹ Zimmer, II, pl. 75 d.

²² R. K. Mookerji, *Aśoka*, pl. VIII.

²³ *R. A. B.*, pl. LIX, fig. 181.

²⁴ *N. R. A. B.*, fig. 130.

²⁵ *Ibid.*, figs. 9 and 10.

²⁶ *Ibid.*, fig. 8.

²⁷ *Ibid.*, fig. 90.

one or two elements which might well be the bars for securing the doors¹ mentioned in *Budhacarita*.² The doors are ornamented with special carved decorations: a kind of vertical Greek key pattern,³ a horizontal "I" and circles⁴ (Pl. 64). It is possible that these were metal inlays, handles and knockers, etc.

The *torāṇas* can be divided into principal groups by comparing their component parts, according to whether their *stambhas* are fitted with capitals or not. When these are lacking, the *stambhas* reach under the porch; they are assembled by means of more or less stylised hoops and connected to the porch by cylindrical cross-pieces.⁵ In the second case the capitals support the arch, and the spacing of the *stambha* is ensured by a straight lintel.⁶

To these architectural elements must be added the *gopura*, or cradle voluted town-gates, supplied with a window fitted with lattice-work and sometimes provided with a wall (*prākāra*) behind which stand women armed with spears.⁷

(8) *Floral and creeper motifs*

Leaves are sometimes so carved as to form a band to panels. The grape vine is often depicted on the Begram panels. Banana and lotus flowers and buds are other motifs carved on these panels. All these motifs are favourites of Indian artists and have often found depiction in Indian art. It is interesting to see how the tradition of design (*patra*), with details of each part composing it, like *kalikā*, *kantaka*, *sakha*, *tribhanga* and *patra*, is indicated.⁸

(9) *Every day accessories*

Besides the items mentioned above a whole lot of implements and various accessories of every day use are represented in the Begram ivories.

(a) *Furniture*

The furniture consists solely of stools⁹, beds,¹⁰ cushions,¹¹ foot-stools,¹² and pedestal tables.¹³ Each of these categories have many varieties. For example if we take the stool, many varieties can be noticed: wickerworked¹⁴ and rectangular stools¹⁵ with feet and sometimes a back. These stools are often composed of criss-cross leather bands sunk at regular intervals in the frame,¹⁶ and on other occasions, they are covered with a rug, the serrated edges of which fall around the frame.¹⁷ The legs generally assume the form of a vase (*kumbha*) taken from the architectural repertoire, others are lathe-turned¹⁸ and rest on castor-sockets. As for the backs of these stools, they are either straight, with a cross-bar joining the two upper ends of the uprights,¹⁹ or, slightly concave and topped by two elements recalling the head of a *makara*.²⁰

(b) *Vessels*

Drinking vessels assume the form of standless bowls.²¹ Liquids are kept in ewers or *bhṛṅgāra*,²² the shapes of which are closely related to the models found in Bharhut,²³ Mathura²⁴ and to a pottery

¹ *N. A. R. B.*, figs. 126 and 132.

² *Budhacarita*, V., 82.

³ *N. R. A. B.*, fig. 126.

⁴ *Ibid.*, fig. 132.

⁵ Comparable to that of Lomaśa Rsi cave, cf. L. Bachhofer, *Early Indian Sculpture*, I, pl. 2.

⁶ Comparable to those portrayed on Mathura sculptures. cf. L. Bachhofer, *op. cit.*, II, pl. 91.

⁷ *N. R. A. B.*, fig. 160.

⁸ C. Sivaramamurti, "Begram ivories: the tradition of the master craftsman", *Marg*, XXIV, no. 2.

⁹ *R. A. B.*, pl. LVII, fig. 175.

¹⁰ *N. A. R. B.*, fig. 30.

¹¹ *R. A. B.*, pl. LIX, fig. 181.

¹² *N. R. A. B.*, fig. 23.

¹³ *Ibid.*, fig. 30.

¹⁴ *Ibid.*, fig. 13 & 25.

¹⁵ *Ibid.*, fig. 30.

¹⁶ *R. A. B.*, pl. XI, fig. 86; pl. LIX, fig. 181.

¹⁷ *N. R. A. B.*, fig. 23.

¹⁸ *R. A. B.*, pl. LVII, fig. 175.

¹⁹ *N. R. A. B.*, fig. 141.

²⁰ *Ibid.*, fig. 39, f. 1.

²¹ *R. A. B.*, pl. LXVI, fig. 206.

²² *Ibid.*, pl. LXVI, fig. 206.

²³ L. Bachhofer, *Early Indian Sculpture*, I, pls. 30-31.

²⁴ N.P. Joshi, *Mathurā ki Mūrtikāṣ*, pl. 24.

found in Taxila.¹ Water is contained in squat thick-necked jars (*lotā*),² and is sometimes kept in closed pitchers kept on a stand³ (Pl. 59).

The *pūrṇagata* models found in Begram⁴ are closely related to those of Amaravati⁵ and Mathura.⁶ All show a strip of cloth tied around the bulge (Pl. 60).

Begram ivories also acquaint us with several varieties of mirrors,⁷ weapons⁸ and other items of use and decoration.

(10) Jewellery

The ladies portrayed on Begram ivories provide us with interesting information regarding jewellery of the times. In ear ornaments alone as many as ten varieties are noticeable, some are ear plaques,⁹ and others pendants¹⁰ (pl. 65). Most of these varieties are seen on contemporary sculptures from Mathura, Amaravati, etc. Some of the ladies are seen with handful bangles flanked by bracelets¹¹ but others put on only a single bracelet.¹² Armlets or *bājuband* are also seen¹³ (Pl. 66). All of them wear decorated girdles, some with a single strand¹⁴ or three strands¹⁵ and others with two strands only.¹⁶ Similarly anklets¹⁷ of many varieties are seen, most of them are of a heavy variety noticed on contemporary Kuṣāṇa sculptures (pl. 67). Necklaces worn by these ladies also show infinite varieties, with¹⁸ and without pendants.¹⁹ Their head-dresses are also very elaborately decorated using profuse jewellery²⁰ (Pl. 63).

(11) Physical types

The physical types portrayed on these plaques are quite remarkable, the nose is short and arched²¹ and the eyes are not so elongated.²² However, the naked body shows a purely Indian grace.²³ Here the suppleness is not pushed to the point of contortion as at Amaravati. The anatomical details are represented with a sense of realism devoid of vulgarity. The round effect is not bloated but shows all the shades. Women are diversely clad—here in a *sāṛī*²⁴ there in a tunic²⁵. Those wearing tunics have their hair dressed in Greek fashion, and in the treatment of their drapery Western influences are apparent.

Ivory Sculptures in high relief

Though most of the ivories excavated at Begram were in the form of plaques used to decorate either footstools or seats with backs, some of them were carved in high relief in round. Two of these (Pls. 68 and 69) show female figures standing on marine monsters²⁶. Pl. 68 shows the woman, her right arm lost, wearing *dhōṭī* in graceful pleated manner. Her blouse has a floral button and she wears head ornament, necklace, armlets, wristlets and heavy anklets. Her face is ovaloid and she has sharp features. Pl. 69 also shows a female figure but with a difference—behind and above the head there appears the beginning of a column. While her right hand hangs by her side, the left is raised upto shoulder. She is wearing *dhōṭī* and jewellery in similar style as the figure described above except the prominent earrings which are additional.

¹ Taxila, III, pl. 129 k.

² N.R.A.B., fig. 20.

³ *Ibid.*, fig. 233.

⁴ R.A.B., pl. XXVIII, fig. 64; N.R.A.B., figs. 192 & 197.

⁵ C. Sivaramamurti, *Amaravati sculptures in the Madras Government Museum*, pl. XXXIII.

⁶ N.P. Joshi, *op. cit.*, pl. 29.

⁷ R.A.B., pl. LVII, fig. 175; N.R.A.B., figs. 8, 9, 65.

⁸ N.R.A.B., figs. 104, 105, 112, 122, 124.

⁹ N.R.A.B., fig. 67, 233.

¹⁰ R.A.B., pl. LV, figs. 155, 158.

¹¹ *Ibid.*, pl. LVIII, fig. 176.

¹² *Ibid.*, pl. LVI, fig. 162.

¹³ *Ibid.*, pl. LVIII, fig. 176.

¹⁴ *Ibid.*, pl. LX, fig. 182.

¹⁵ N.R.A.B., fig. 21.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ R.A.B., pl. LXIII, fig. 191.

¹⁹ *Ibid.*, pl. LIX, fig. 181.

²⁰ N.R.A.B., figs. 8 to 11.

²¹ This feature of arched or slightly curved nose is noticed at Mathura as well.

²² R.A.B., pl. LVII, fig. 175; pl. LX, 182.

²³ *Ibid.*

²⁴ *Ibid.*, pl. LVII, fig. 175.

²⁵ *Ibid.*, pl. LVI, fig. 162.

²⁶ R.A.B., fig. 76 and 79.

The find spots and positions of these ivory sculptures made it impossible to ascertain their use. J. Hackin, the excavator, had suggested that they may have been *Yakshis*, or river goddesses. The reasoning was their association with *makara*, an attribute of river goddess Ganga in later iconography. However, it is difficult to accept these figures as river goddess Ganga because of two reasons. Firstly, all other ivory finds from Begram are secular in nature and were meant to be decorative panels. Secondly, the column projection over the head of one of these figures makes it impossible to accept this identification. The river goddess Ganga cannot be leg of a seat which, according to our belief, these statues were. Their size, 15.6 cms, also support the theory of their being legs of some seat. We have the same tradition continued at Orissa in later times.¹

The details of costume and the style of treatment, the adornment, the supple and relaxed posture of the body, all indicate that these were perhaps carved in 1st. Cent. A. D.

Begram and other contemporary sculptures

The *torana* gateways, the toilet scenes, the *mithunas*, the *makaras*, the lotus motifs and the long undulating creeper motif of the *kalpavalli* type occurring on Begram ivories are all favourite themes of the Kuṣāṇa sculptures of Mathura and Satavahana sculptures of Amaravati. It seems startling but is easily understood when it is remembered that Begram ivories are from the western end of the Kuṣāṇa empire and are reminiscent of sculptures found along the eastern and western borders of the Satavahana empire. There are a number of other scenes which show an unmistakable common heritage.

The type of the mirror held by the damsel decorating herself and arranging her coiffure at Begram² is the same as in Mathura³ or even Amaravati.⁴ Indeed one of the medallions depicting the toilet scene of Mayadevi as Suddhodana visits her, from one of the cross-bars of the Amaravati rail,⁵ cannot but flash across the mind of any one examining these ivories. The motif of two maidens closely held together under an arched gateway,⁶ which is of frequent occurrence in these ivories, is strongly suggestive of a similar pair of maidens in Kuṣāṇa workmanship from Mathura.⁷

The drunken lady almost sinking to the ground and supported as she is raised, a motif that is a favourite one in Mathura sculpture,⁸ has its counterpart at Begram also.⁹

The adjusting of the ear ornament (*kundals*)¹⁰ as it is shown at Begram, calls attention to a similar position of ear-ring from Pompeii and Mathura described earlier.¹¹

The adjusting of the necklaces in an artistic fashion as depicted in a Mathura sculpture from Saṅk-āśya, now preserved in the Indian Museum, Calcutta,¹² is bound to strike one examining a similar ivory carving from Begram.¹³

A woman wringing the water from her long, flowing tresses after her bath, while a swan hastens to swallow the drops of water, mistaking them for pearls is as pleasing a motif here¹⁴ as in Mathura.¹⁵

The slipping on the anklets on the foot of the lady in Begram¹⁶ is not only frequently met with in Kuṣāṇa sculpture from Mathura¹⁷ and in Satavahana sculpture from the Amaravati rail,¹⁸ but continues even later as a pleasing motif in Gupta art.

¹ V. P. Dwivedi, 'Ivoires Indiens', *Arts Asiatiques*, XVI, pp. 59 to 74.

² *R.A.B.*, pl. LVII, fig. 175; *N.R.A.B.*, fig. 8.

³ L. Bachhofer, *Early Indian Sculpture*, II, pl. 95.

⁴ C. Sivaramamurti, *Amaravati Sculptures in the Madras Government Museum*, pl. IX, fig. 17.

⁵ *Ibid.*, pl. XXIV, 3.

⁶ *N.R.A.B.*, 8 to 11.

⁷ N.P. Joshi, *op. cit.*, pl. 75.

⁸ Double-sided Vasantasena-slab in the National Museum, New Delhi, published: *Marg*, XV, No. 2 (March, 1962),

fig. 12.

⁹ *N.R.A.B.*, figs. 51 and 78.

¹⁰ *R.A.B.*, pl. LVIII, fig. 176.

¹¹ Please see Chapter V, pp. 64-65.

¹² P.V. Bapat (Ed.), *2500 years of Buddhism*, p. 256.

¹³ *R.A.B.*, pl. XXIX, fig. 65, *N.R.A.B.*, fig. 67.

¹⁴ *N.R.A.B.*, fig. 46 and 49.

¹⁵ Mathura Museum, No. 18. 150)A.

¹⁶ *N.R.A.B.*, fig. 76.

¹⁷ P.V. Bapat (Ed.) *op. cit.*, p. 256.

¹⁸ C. Sivaramamurti, *op. cit.*, pl. IX, fig. 23.

The dancing scenes from Begram¹ have their counterparts at Mathura² and Amaravati³ and the harp shaped *viṇā*,⁴ the flute,⁵ the *kartūla*⁶ and the *nṛdaṅga*⁷ are easily recognised.

The lady carrying food and water, the former on a plate with a conical lid, is found both at Amaravati⁸ and Mathura.⁹ It occurs again in the same manner at Begram¹⁰ also and the common heritage is unmistakable.

Date and place of origin of Begram ivories

The foregoing comparisons make it evident that the Begram ivories represent the art of 1st and 2nd century A. D. Political events further support this view.

The Sassanid king Shapur I sacked Begram about A.D. 241.¹¹ Scholars believe that this room was probably hastily concealed just before the arrival of the Sassanid king. If this is true, the year 241 becomes our one date limit. The other date could be fixed at A. D. 79, the year of the catastrophic eruption of Mount Vesuvius at Pompeii, which is provided by a comparison of Begram glass and bronze finds and similar ones found at Pompeii. Thus, the Begram ivories can be safely assigned to 1st to 2nd century A. D. period, a conclusion reached by Stern also.¹²

As regards the place of origin, there is no unanimity of opinion. The comparisons shown earlier point to Mathura, but then Mathura itself has yielded hardly any ivory, only a bone carving.¹³ The other place of origin could be the Satavahana region, where a number of ivories have been found at Ter,¹⁴ Kondapur¹⁵ and Dharnikota¹⁶. But here again, the stylistic similarity which is found with Mathura, is lacking. The huge quantity of about six hundred plaques points to local manufacture, perhaps with the help of artists imported from Mathura or its vicinity. As Begram was a meeting place of several cultures, the Hellenistic influence in hair treatment and un-Indian tunic may be explained due to such observations being noticed by the artists at Begram. That the artists came from Mathura or Madhyadeśa is evident from the predominance of Mathura influence in these ivories.

Conclusion

The Kuṣāṇa period shows the high water mark of Indian ivory carvings. The huge quantities discovered at Taxila and Begram indicate the popularity of the ivory medium during this period. Excavation conducted in different regions of India have yielded many objects from the Kuṣāṇa levels, which further prove increased use of the ivories.

That ivory was being put to different uses is evident from the finds of Taxila, which show a wide variety ranging from the usual hair-pins and combs to the unusual cheek-bars of horse's bridles. The latter finds were, however, limited to the Parthian remains only.

The prosperity and sophistication of Taxila residents, as well as their close contacts with foreigners, are reflected in the city's ivory finds. For instance, unlike the earlier finds, the combs excavated from the Sirkap mound of Taxila show beautiful carvings depicting *nithuma*, ducks, conch-shell and flowers, etc. Scarcity of the material as well as its long familiarity led the artist to make combined bone or ivory rods to be used as ear-cleaners and tooth-picks. These are pointed at one end, to be used as

¹ *N.R.A.B.*, fig. 129.

² L. Bachhofer, *op. cit.*, pl. 91.

³ C. Sivaramamurti, *op. cit.*, pl. XIII.

⁴ *N.R.A.B.*, fig. 130.

⁵ *Ibid.*, fig. 129.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ C. Sivaramamurti, *op. cit.*, pl. I.

⁹ L. Bachhofer, *op. cit.*, II, pl. 101.

¹⁰ *N.R.A.B.*, fig. 30, 130.

¹¹ J. Auboyer, *op. cit.*, p. 35.

¹² Stern dates them at the earliest to the last quarter of the 1st century A.D. and the latest to the second half of the 2nd century A.D., their dates lying somewhere between the two extremes, cf. *N.R.A.B.*, I, p. 54.

¹³ Moti Chandra, pl. 2 a and b.

¹⁴ D. Barrett, *Ter*, p. 8.

¹⁵ P. Steenivasachari, *Kondapur*, pp. 8-9.

¹⁶ *J.A.R.*, 1964-65, pl. II c.

tooth-picks or nail-cleaners, and furnished with a tiny scoop at the other end to be used as ear-cleaners. The increased use of the lathe for producing bone and ivory items at Taxila makes us believe that things were being produced on a large scale, a fact attested by the number of excavated finds.

The different techniques of carving employed at Begram stand unparalleled in the whole range of Indian art. The carvings found at the site provide us with interesting glimpses of contemporary social life led by the 'harem dwellers' and other royal personages portrayed on these ivory-plaques.

The fragmentary ivory plaque from Kondapur corroborates the historical event of Vasavadatta's elopement with king Udayana. The four-petalled flower carved on the same plaque shows the motif's continuity from the Harappan period. Technically as well as use-wise, the Kusāna period shows great advances in bone and ivory carvings as described above.

Gupta and Post-Gupta Bone and Ivory Carvings

Historical Background

A.D. 320 is one of the most important dates of Indian history. It is about this time that Chandragupta I founded the famous Gupta dynasty in northern India and ushered in the age of integration after more than three hundred years of fragmentation and foreign domination. His marriage with Kumāradevī, the Licchavi princess, probably resulted in the union of her principality with Magadha and launched him on a career of wide conquests.¹ The next emperor, Samudragupta, laid the foundation of an irresistible military machine with which he wiped out the feeble kings and effete republics of the Gangetic basin.² Samudragupta's *aśvamedha* horse, followed by his army, exacted tributes from the rulers of most parts of the country, and served to bring about friendly relations with the Shahanushahi kings of the north-west.³ He was succeeded by his no less brilliant son, Chandragupta II, known as Vikramaditya, acclaimed as the greatest of the Gupta emperors. An inscription gives the regnal year of Chandragupta II, which has been read as *prathama* or first by some, and *panchama* or fifth by others. The date of his accession would accordingly be either A.D. 380 or 376. The later appears to be more plausible.⁴ Chandragupta II died some time between A.D. 413 and 415 and thus enjoyed a long reign of more than thirty-three years.⁵ In his reign the direct sway of Pataliputra extended from the Bay of Bengal to the Arabian Sea.

Chandragupta II was succeeded by his son Kumaragupta I, who governed, more or less unimpaired, the empire bequeathed to him. He was followed by Skandagupta who had to fight and defeat the Hūnas and other adversaries before he settled down to enjoy the rehabilitated fortunes of his family in comparative quiet.⁶ A war of succession followed the death of Skandagupta, perilously rocking the ship of state already subject to the pitiless buffets of external invasions. Next in order of succession, five emperors including Narsimhagupta Bālāditya held precarious sway over parts of the empire. Many parts of the empire outside the bounds of its compact core became independent. The Gupta empire, grown weak beyond repair, disintegrated and out of the welter emerged a set of new dynasties: the Maukharis of Kanauj; the Pushyabhūti of Thanesvara; the Maitrakas of Valabhi; and the Chālukyas of Bādāmi, to mention a few. The next shining star on the political horizon of north India was Harsha of

¹ R.C. Majumdar (Ed.), *The Classical Age*, p. 3.

² Allahabad Pillar Inscription of Samudragupta, C. I. I., III, No. 1.

³ *Ibid.*

⁴ R.C. Majumdar (Ed.), *The Classical Age*, p. 18.

⁵ *Ibid.*

⁶ Bhitari Pillar Inscription, C.I.I., III, No. 54.

the Puryabhūti dynasty of Thāneśvara.¹ He, however, left no successor and on his death the fabric of his creation fell to pieces. But the strength and vigour of India, between A.D. 550 and 750, found better expression in the South. The Chālukyas of Bādāmi and Pallavas of Kāñchī were great rulers.²

About the end of the period under review, the Arabs appeared on the Indian scene, but failed to penetrate through the Khybar and Bolan passes. However, they did succeed in advancing through the Makran coast, and Sindh was conquered in A.D. 712.³

The foregoing account shows that except for the 150 years of the Great Guptas and a brief spell under Harṣa, the period under review saw many rulers and dynasties rising and falling in north India and a comparatively stable period in south India.

The Society

A succession of able warriors and gifted rulers blessed with long reigns brought peace and prosperity to a vital area in north India extending from sea to sea. The Chinese pilgrim Fa-hsien, who visited India between A.D. 405 and 411, was immensely impressed with the generous and efficient government of the Guptas and with the magnificent cities, fine hospitals, and seats of learning in their domains.⁴ The literary works produced during this period, those of Kālidāsa⁵ and others, present a picture of prosperity and contentment. The *Kāmasūtra*⁶ mentions literary parties as the chief source of pleasure of the educated man. The educated man of the town (*nāgaraka*) might be a painter too. The *Kāmasūtra* even suggests that he should have a special room for sculpture, wood carving and clay modelling.⁷ The visual arts, especially sculpture and paintings, reflect the secure and leisurely atmosphere of the time. It was indeed a classic Golden Age like that of Pericles in Greece. People's fondness for fine clothes, ornaments and jewels is feelingly reflected in the artistic creations of the period.

That ivory was a popular medium of artistic expression is attested by the *Kāmasūtra*⁸ and the *Brīhatsaṃhitā*,⁹ both of which, though dealing with technical subjects, mention it occasionally. Even such object as peg¹⁰ was made of ivory, not to mention of royal seats,¹¹ which were embellished with this precious material.

International contacts

Contacts of India with the outside world increased many fold during this period. China and Central Asia were closely connected by the land route. Kashmir played a very important part in the propagation of Buddhism in China¹² and Central Asia. Besides, several Indian monks visited China and Chinese monks visited India in large numbers. These two parts of the world were closely connected with each other by way of trade also.

Similarly India was closely connected with the various islands of the East Indies.¹³ Many Sanskrit inscriptions, written in Indian scripts, have been found in these islands throwing light on their close connections with India. The Chinese chronicles also testify to the dominance of Indian culture in this region.¹⁴ All such colonial and trade activities must have brought enormous wealth in India, which ultimately resulted in greater patronage to arts and crafts during this period.¹⁵

Technical achievements

Technical excellence in the pursuit of arts and crafts was at its peak during the Gupta age, exemplified by such splendid monuments as the Iron Pillar of Mehrauli, near Delhi. Over twenty-three feet high and consisting of a single piece of iron, it must have demanded immense care and labour and great

¹ R.C. Majumdar (Ed.), *The Classical Age*, p. 96.

² D.C. Sirkar, in *The Classical Age*, pp. 227-250.

³ A.L. Basham, *The Wonder that was India*, p. 70.

⁴ *Ibid.*, pp. 65-66.

⁵ *Ibid.*

⁶ Please see Chapter II, p. 22.

⁷ *Ibid.*

⁸ Damodar Sastri (Ed.), *Kāmasūtra*, I, 3.16; III, 3.13,

⁹ *Brīhatsaṃhitā*, II, 32, 19-26.

¹⁰ *Kāmasūtra*, I, IV, 5-15.

¹¹ *Raghuvarṇa*, XVII, 21.

¹² R.C. Majumdar (Ed.), *The Classical Age*, p. 598.

¹³ *Ibid.*, p. 643.

¹⁴ *Ibid.*, p. 644.

¹⁵ V.S. Agrawal, *Gupta Art*.

technical proficiency in heating and shaping the metal. The perfection of the contemporary metallurgical techniques is brought home to us by the pillar's almost total freedom from rust, despite its weathering over 1,500 tropical monsoons.¹

The Gupta coinage, again, illustrates the meticulous care, lavished by the monarchs on the shaping and designing of their coins, works of art in their own right, endowed with beauty, originality and charm.²

The wall paintings at Ajanta and Bagh, etc., executed during this period, reveal the giddy heights reached by the Gupta artists. Although badly damaged, the colours used at Ajanta still retain their shine and provide us with clear evidence of technical competence characteristic of the period.

The Gupta sculptures in stone,³ terracotta⁴ and metal⁵ show the competence reached by the Indian artists. A quite dignity, poise and detachment are the hall-marks of the classical creations of this period. Unfortunately, not many ivory carvings of the period have been found. But the few examples, discussed here, do show the height of technical excellence achieved by the Gupta artists. As against this the Post-Gupta period has yielded more ivory carvings.

GUPTA BONE AND IVORY FINDS

Bhita (Uttar Pradesh) finds

A number of ivory items, including some inscribed seals, were excavated from Bhita. These objects were assigned to the Gupta period on the basis of palaeographic grounds by reading the inscriptions on ivory seals. The following are the main finds :

(i) Seal of ivory⁶ with a conical top, pierced with a hole for suspension. The inscribed surface is oval and surrounded by a beaded line. Device of tortoise crawling left. Legend in northern characters of the 4th or 5th century A.D. The inscription reads: "*Sreshthi Jayavasuda (h)*" or "The banker Jayavasuda."⁷ The device of a tortoise would seem to indicate that the owner of this seal was a worshipper of Viṣṇu, who in his second incarnation appeared in the form of a tortoise.

(ii) Ivory seal die.⁸ Inscribed surface conical, without border-line. Symbols of conch and wheel (*Śaṅkha* and *Cakra*) both of which are Vaiṣṇava. The legend, which reads "*Dharmadasa Saindhavya (h) putrasya*", 'of Dharmadasa, the son of Saindhavya', is in the small northern letters of the 4th—5th century A.D.

(iii) A lathe-turned fragment, probably belonging to a piece of furniture, decorated with taurus and other mouldings.⁹

(iv) The bottom of miniature casket, turned on the lathe, with mouldings at base and rim.¹⁰

(v) A flat piece of ivory measuring 11.5×2.5×0.5 cm. The upper side carved with '*Sivastika*', small circle and lines. Narrow grooves in the middle of the lower side. It is difficult to say as to what purpose this piece was put to.¹¹

(vi) Ivory point, length 8.8 cms and unpierced. Marshall suggests that it could be a bobbin,¹² whereas Cunningham¹³ thought that these were nails.

¹ A. L. Basham, *op. cit.*, p. 498.

² A. S. Altekar, *Gupta gold coins*.

³ S. K. Saraswati, *A Survey of Indian sculpture*, pp. 119-176.

⁴ V. S. Agrawal, "Terracotta figurines of Abhichatara, District Bareilly, U. P.," *A. I.*, no. 4, pp. 104-179.

⁵ Stanislaw Czuma, "A Gupta style Bronze Buddha", *The Bulletin of the Cleveland Museum of Art*, Feb., 1970, pp. 55-67.

⁶ *A. R.*, *A. S. I.*, 1911-12, p. 48, pl. XVII, 2.

⁷ K. K. Thaplyal, "Nigama and Steni seals: an appraisal", *J. N. S. I.*, XXX, p. 139.

⁸ *A. R.*, *A. S. I.*, 1911-12, pl. XVII, 3.

⁹ *Ibid.*, p. 93.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.*

¹³ A. Cunningham, *A. S. R.*, III, p. 51.

(vii) Unguent bottle. Three incised rings at rim. Similar at base, with concentric circles and cross hatchings. Length¹ 8 cms.

(viii) An ivory casket. It was found in five fragments, and is decorated with incised rings, turned on the lathe. Diam. at bases 5.3 cms.²

(ix) Five dice of ivory and eight of bone were also discovered from Bhita³.

(x) 67 bone points, pointed at both ends, were also discovered. Marshall take these to be bobbins.⁴

(xi) Two small pieces of furniture were also discovered. Both were turned on the lathe and ornamented with mouldings.

Saheth-Maheth (Uttar Pradesh) ivory seal

Maheth, a fortified town-site near Bahraich. U. P., yielded an ivory seal, inscribed in characters of the 4th-5th centuries A.D. and a hoard of coins, including those of Kuṣāna king Vasudeva.⁵

Amreli (Gujarat) bone dice and pins⁶

3rd-4th century A.D. levels of Amreli excavations have yielded seven bone dice. These are rectangular in plan and square in section and have concentric circles indicating 1, 2, 3 and 4.

The three bone pins, also recovered from the same level, have sharp points at both ends. These could not be awls, as there is no hole, but could have been used as bobbins or antimony rods.

Ter (Maharashtra) ivory female figure

The figure shows a standing female carved in the round⁷ (Pl. 70). Her feet and hands are lost. She has prominent breasts, a slender waist and supple legs. Her arms are unusually long. The treatment of the body shows that probably it was meant to be clothed; that is why the details are left unfinished. She is wearing a V-shaped necklace. Her round face, though damaged, shows unmistakable Gupta features—full cheeks, prominent nose and a bee-stung lower lip. It can be assigned to the fifth century A.D.

Ter has yielded two other figures belonging to an earlier period; one is carved in ivory⁸ and the other in bone.⁹ All these have been found from explorations only. A limited excavation of the site, however, yielded ivory dice only.

An ivory monkey in the Seattle Art Museum

The figure is 18 cms high and is half human, half monkey (Pl. 71). He is now armless and the right leg is broken above the knee; the left leg at the ankle. Diagonal marking on the head, body, and legs are suggestive of hair. The figure is nude except for a girdle of lotus-leaf palmettes around the hips. It is difficult to accept its identification as Hanuman¹⁰ in view of the absence of any other attribute. However, it can be compared to monkeys portrayed in the Nachna panel where Rāma is shown granting protection to Sugrīva.¹¹ The monkeys standing behind Rāma and Lakshmana shows the same bent posture as seen in the Seattle ivory. Their faces also resemble the ivory monkey's face. And as Nachna has been assigned to the Gupta period,¹² the Seattle ivory, too, can be dated to that period.

¹ A. R., A. S. I., 1911-12, p. 93.

² *Ibid.*

³ *Ibid.*

⁴ *Ibid.*

⁵ A. I., No. 9, p. 145.

⁶ S. R. Rao, *Excavation at Amreli* (Bulletin of the Museum and Picture Gallery, Baroda, XVIII), p. 109.

⁷ *Handbook to the Centenary Exhibition of the Archaeological Survey of India*, p. 37, pl. XIII.

⁸ Please see Chapter VI, pp. 81-82, Pl. 54

⁹ Please see Chapter V, p. 63; Pl. 38

¹⁰ Los Angeles County Museum, *The Art of Greater India* (B. C. 3000 A. D. 1800), p. 45.

¹¹ R. C. Agrawal, "Unpublished sculptures and terracottas in the National Museum, New Delhi and some allied problems", *E. W. (N. S.)*, 17, No. 3-4, fig. 16.

¹² *Ibid.*

POST-GUPTA BONE AND IVORY CARVINGS

Paunar (Maharashtra) bone points¹

Five bone points were excavated from the period III of the site, which can be assigned to c 3rd-8th century A.D. Like their other counterparts, all these bear flake marks, but show one variety only—long bicones with pointed ends.

Shamalaji (Gujarat) bone objects²

A fragment of an upper part of a bone object, with a rounded top and rounded section, probably part of a kohl-stick, and two dice of bone, were excavated from Period II A, layers 6 and 7, which could be assigned to 400 to 1000 A.D. One of the dice is rectangular with a number of marks made by two concentric circles on its longer side. The other die is fragmentary.

Ivory 'Dampati' plaque from Khotan (Central Asia)

The fragmentary plaque was discovered by Stein from Khotan.³ It measures 9.4×4.2 cms and shows a youthful male figure with short and wavy hair, dressed in a robe with tight sleeves (Pl. 72). His left arm is thrown around the small female figure and the hand can be seen below her waist holding a small wreath, and the right is above her breasts. The head, left arm, shoulder and feet of the female figure, and the lower half of the male figure, are missing. However, the right hand of the lady is tenderly placed at the male's back (Pl. 73). The youthful face of the young man is suffused with love.

It has been assigned to Kashmir on the basis of similarities between the ivory and a group of small steatite carvings in the British Museum.⁴ However, neither the robe nor the hair-do, or the facial features, resemble any of the known Kashmir sculptures. The hair style can be compared with a stucco head from Gandhara,⁵ and the facial features with the City Goddess from Charsada.⁶ On the basis of these, the carving can be assigned to a date around 6th-7th century A.D. and the provenance to north-west India.⁷

An ivory diptych at Kansu (China)⁸

The diptych has been the most popular form of a portable shrine in medieval Christian art; and ivory was extensively used for this purpose.⁹ But it is surprising to find a much earlier example in Indian art which suggests that perhaps such diptychs were an Indian innovation.¹⁰ Steatite diptychs have also been found from many places.¹¹

Our specimen measures 15.9 cms in height and 17.3 cms in width when open. The combined thickness of two leaves is 3.9 cms. When closed; it forms in full three dimensions the figures of a kindly personage mounted on an elephant and carrying before him a small stupa like object, perhaps the Buddha's *asthi-patra*, a popular theme in early Buddhist art.¹² In front of the stupa and between the ears of the elephant sits a *manant*. Two warriors, with swords and bucklers; sit behind the king and six stand about the feet of the elephant. When the diptych is opened it discloses, in minute figures, scenes from the life of the Buddha, and two stupas carved within the stupa held by the king. Each inner face has twenty five scenes and the total number of figures carved on both panels is 279.

¹ S. B. Deo and M. K. Dhavalikar, *Paunar Excavations*, p. 98, fig. 30.

² R. N. Mehta and A. J. Patel, *Excavation at Shamalaji*, p. 46.

³ A. A. Stein, *Ancient Khotan*, I, p. 222.

⁴ D. Barrett, "Facade of a miniature shrine from Kashmir", *B. M. Q.*, XXXIV, nos. 1-2, p. 64.

⁵ H. Ingholt, *Gandharan art in Pakistan*, fig. 575.

⁶ A. L. Basham, *The Wonder that was India*, pl. XXXII.

⁷ V. P. Dwivedi, "Ivories of north-west India," in *Aspects of Indian Art*, p. 73.

⁸ D. Barrett, "An ivory diptych", *Lalit Kala*, No. 13, p. 11-14.

⁹ J. Natanson, *Gothic Ivories*, pl. 15-17.

¹⁰ V. P. Dwivedi, *op. cit.*, p. 10.

¹¹ Barrett, *op. cit.*, p. 13.

¹² C. Sivaramamurti, *Amaravati sculptures in the Madras Government Museum*, p. 204, pl. XLIII. The National Museum, New Delhi has recently acquired a coping piece from Bharhut showing elephants carrying Buddha's relics.

Since the diptych is a portable altar, little importance can be attached to its present find spot. It must have reached there from north-west India which seems to be its place of origin. The elephant figure can be compared to another similar figure from the Gandhara region¹ treated rather dully. Similarly the elephant-bells can be compared to those excavated from Taxila.² The royal figure seated on the elephant has a hair style similar to a Kasmir Bodhisattva.³ The bearded stripe along the legging of the seated figure is quite similar to the one depicted on the seated Surya figure at the Martand temple of Kashmir belonging to the 8th century.⁴ Likewise, the small figures of the soldiers, *dhoti*-clad and carrying swords with a pronounced curve at the point, are closely paralleled by the figure on the Cunningham fragment. All these similarities point to a 7th-8th century date and north-west India as the place of its origin. This region was closely linked with China and it is most likely that the diptych was carried home by one of the Chinese pilgrims.

Ivory Buddha with attendant in a cave

The Buddha, seated in '*dhyānāmudrā*',⁵ is shown in a cave with a trefoil arched top and supported by a gadrooned pillar, tapering downwards on either side (Pl. 74). Buddha is seated on a throne, below which are seen two antelopes and a pair of lions. The figure of the Buddha is carved in deep relief, almost in the round. He has an ovaloid face with full cheeks, pointed nose, arched eyebrows and *ūrṇā* in the centre of the forehead. The eyes are fish-shaped and half closed, with pupils painted black. The small mouth has bow-shaped full lips painted red. The shoulders are broad and sloping; the chest is well modelled and the flesh of the abdomen is firm. The hands and feet are carved sensitively. He is wearing a *saṅghātī* thrown over both the shoulders, the folds are disposed in a collar like manner. The folds of the drapery may also be seen spread on the throne. Hovering above and on the sides are a host of siddhas, yakshas and maharajas filling up every inch of space.

The Bodhisattva on the left (carved separately) stands gracefully with his hands interlocked in the *añjali* pose. His ovaloid face, arched eye-brows, aquiline nose and open but slightly distended lips with a noble smile are noteworthy features. To his left, on the ground, kneels an attendant holding a flower tray, and to his right stands a *chauri*-bearer. The Bodhisattva on the right is almost an exact replica of his counterpart on the left. The ovaloid faces of the figures, their full cheeks, fleshy chins, the collar-like treatment of the robe near the neck,⁶ as well as the trefoil arch and gadrooned columns⁷ are features met in the 8th century sculptures from the Kashmir region, to which these ivories can also be assigned.

Ivory Avalokiteśvara

The Avalokiteśvara in his Lokanātha aspect is carved in the round⁸ (Pl. 75). Amitābha decorates his black lacquered headdress in front. He stands gracefully in *tribhanga* pose maintaining the concavity of the ivory tusk. Unfortunately the face is damaged, but its ovaloid contours, fish-shaped eyes, smiling lips and well modelled chin show an unmistakable resemblance to the Buddha (Pl. 74) discussed earlier. The eye-brows and other details of the eyes were also accentuated with black. Traces of red have also survived on the lips. The neck is marked with the conventional triple lines and the broad chest is well modelled. The right hand is in the *varadamudrā* bestowing gifts. The left,

¹ H. Ingholt *op. cit.*, No. 450.

² J. Marshall, *Taxila*, II, pp. 598-99; III, Nos. 344-351.

³ In the collection of Sri Haridas K. Swali of Bombay, cf. D. Barrett, *Lalit Kala*, No. 11, p. 38 and fig. 6.

⁴ H. Goetz, "The medieval sculpture of Kashmir", *Marg*, VIII, no. 2, p. 66, fig. 3.

⁵ Moti Chandra, "Ancient Indian ivories," *Bulletin of the Prince of Wales Museum*, No. 6, pp. 37-44, figs. 6, 7a, 7b, 8, 9 and 10a.

⁶ Sherman E. Lee, "Clothed in the Sun a Buddha and a Surya from Kashmir", *The Bulletin of the Cleveland Museum of Art*, Feb. 1967, fig. 1.

⁷ Moti Chandra, who has advocated a 5th century date for the Buddha, has himself pointed out the architectural similarities of this composition with the Martand temple, which was built by Lalitaditya in the mid-8th cen. A. D., Moti Chandra, p. 42.

⁸ *Ibid.*, pp. 43-46.

now damaged, held a lotus with a long sinuous stalk. The plated end of his *dhotī* falls between the legs. It is secured to the waist by a beaded-girdle and a twisted *kamarband*. He is decked in exquisite ornaments and an elaborate *vanamālā* almost reaches the ankles.¹ To the left kneels a devotee with folded hands wearing a three pointed crown, earrings, a necklace, bracelets, *dupaṭṭā* and *dhotī*. The standing figure on the right, with folded hands, seems to be an acolyte. His hair is arranged at the back in a triangular projection.

It is remarkable that certain details of the costume and ornaments of Avalokiteśvara tally with similar descriptions in the *Harṣacharita*. The loin cloth tightly tied to the waist² is mentioned. In front, a little below the navel, its upper edge was tucked to the waist and the lower end was free. When turning the body, a part of the right thigh was exposed. The tail end of this garment, after being tucked behind, had a portion sticking up. In the *Kūdambarī* as well the dangling of the free end of the *dhotī* is mentioned.³ The tiger claw set in gold, worn by Avalokiteśvara, was used as a talisman by children and young people.⁴ The resemblance of all these details point to an 8th century date for the figure. Moreover, the facial features, the muscular treatment of the body, the ornaments and the long *vanamālā* composed of rosettes, all point to its Kashmir origin.

Seated ivory Buddha

The Museum of Fine Arts at Boston has an ivory figure (Pls. 76 & 77), similar to the Buddha in the Bombay Museum.⁵ Seated in *Padmāsana*, the Master is clothed in a simple *sanghātī*, leaving the right shoulder bare. The folds of the garment fall in parallel courses carved as string ridges. Unfortunately, the hands which were probably in *dharmacakra-pravartana mudrā* are now lost. The powerful shoulders, the leonine torso and the three auspicious folds of the neck are skillfully carved. The ovaloid face, full cheeks, arched-eyebrows, petal-shaped eyes, prominent nose, small mouth and bow-shaped lips and the fat chin are all in line with other contemporary ivory figures from Kashmir, and point to a date in the eighth century. The main figure is flanked by an attendant on either side.⁶ Though badly damaged and unidentifiable, yet these figures are quite lively. Their half turned posture attests to the skill with which the ivory-carver utilized the restricted dimensions of the ivory tusk.

A small ivory plaque

The Boston Museum has another ivory, a small plaque, showing a standing Buddha facing right with two garland bearers hovering above and other attendants on the two sides.⁷ The compassion of the Enlightened one for the kneeling devotee in His feet is remarkably portrayed in this miniature carving from Kashmir assignable to the 8th century.

Ivory Buddha plaque

An ivory plaque, similar to the one discussed above, exists in the Cleveland Museum of Art at Cleveland⁸ (Pl. 78). Both these carvings are identical in size, i.e. 4.5 cms, the only difference being that the Boston Buddha faces right,⁹ and the Cleveland figure faces left. It is probable that both of these formed part of a small shrine, flanking the figure of Buddha, as we find in the example of the Bombay Museum Buddha.

¹ Similar prominent and long flowing *vanamālā* could be seen in the following Kashmir sculptures, cf. H. Goetz, "The medieval sculptures of Kashmir", *Marg*, VIII, No. 2, p. 66, fig. 1, dated to c. 730 A. D. For other such *vanamālās* see: R. C. Kak, *Handbook of the Archaeological and Numismatic sections of the Sri Pratapsingh Museum, Srinagar*, pp. 50, 52, 54 and 66.

² *nubhāṇṭipīḍa*, V. S. Agrawal, *Harṣacharita*: *Ek Sanskritika Adhyāyana*, p. 22.

³ V. S. Agrawal, *Kūdambarī*: *Ek Sanskritika Adhyāyana*, p. 176.

⁴ *Ibid.*, p. 68.

⁵ Milo Beach, "Two Indian ivories: newly acquired", *Bulletin of the Museum of Fine Arts*, LXII, no. 329, pp. 95-101, pt. 1.

⁶ Please see p. 101.

⁷ Milo Beach, *op. cit.*, pl. 1.

⁸ *Ibid.*, pls. 5 and 6.

⁹ *Ibid.* pl. 7.

¹⁰ *Ibid.*, pl. 6.

Ivory plaque showing the descent of Buddha at Sankisa

The George P. Bickford collection at Cleveland has an ivory plaque measuring 6 cms.¹ It illustrates Buddha's descent from heaven at Sankisā, indicated by the three steps on top of which he stands, flanked by Indra and Brahma. His *sanghātī* is fashioned like the Bombay Buddha's, covering both the shoulders with a collar-like treatment below the neck.² Here, too, the usual garland-bearers, of which the Kashmir artists seem to be very fond, can be seen in the upper two corners. Stylistically, this specimen also belongs to Kashmir of the 8th century A.D.

Ivory Bodhisattva in a wooden shrine

The British Museum, London has recently acquired a Bodhisattva ivory figure seated in a wooden shrine³ (Pl. 79). The Bodhisattva is 9.5 cms in height and has been cleverly carved on the curve, utilising the contour of the tusk (Pl. 80). He is seated in *mahārājāliṅgāsana*, the left foot resting on the right and the right leg supported by a twisted cloth or *yoga-patta*. He wears a *dhōṭī* and a number of ornaments — ear-rings, arm-bands, necklaces, *yajnopavīta*, a *vanamālā* and a three pointed crown with florets above the ears. As both of his hands are damaged, it is difficult to say what he was holding in them. The Bodhisattva is seated within a trefoil arch similar to the Bombay Museum figure⁴ (Pl. 74). Above the arch, on either side, stand three musicians wearing crowns. Below the Bodhisattva's throne is a beautifully characterised orchestra of five seated musicians. Flanking the central figure of the Bodhisattva are two more Bodhisattvas. The ivory has preserved traces of colour at places.

The most important feature of the ivory is its *deodar* wood frame, gilt and painted on a gesso ground. The facade is divided into a central niche containing the ivory and two flanking niches which must have been occupied by supporting ivory Bodhisattvas, similar to the Bombay Buddha figures. The central niche consists of a cusped cinque-foil arch within an interrupted triangular pediment, a salient feature of the 8th century Kashmir architecture.⁵ The delicacy and refinement, so conspicuous on the ivory, are repeated on the wooden facade. The flying figures are especially graceful and alluring. The features of the Bodhisattva as well as the wooden frame make it clear that the figure belongs to 8th century Kashmir.

Ivory Buddha in a wooden shrine

The famous Kanoria collection at Patna has an exquisite example of carving in ivory. The figure of the Buddha seated in *dhyānamudrā* is framed in a wooden shrine flanked by an ivory Buddha standing in a niche on either side (Pl. 81). He wears a robe covering both the shoulders; it has a number of string-ridged folds arranged in a semi-circular fashion. The face with closed eyes reflects the depth of this reverie. He has an oval face, a prominent nose, arched eye-brows, full cheeks a small mouth and a fat chin (Pl. 82), the characteristic features of Kashmir carvings. As in the case of the Bombay Museum Buddha,⁶ this image is also flanked by a host of figures. The bearded head and the emaciated figure towards his left are so strikingly similar to the Bombay figures,⁷ that one wonders whether they owe their creation to the same guild of artists. The two lions below his seat are also similar to their counterparts.

The central figure represents Indra's visit to the Buddha.⁸ Indra and his harpist can be seen at

¹ *The Bulletin of the Cleveland Museum of Art*, Feb. 1967, p. 57, figure 14.

² Similar treatment of *Sanghātī* can be observed in a figure from Ahichchhatra, cf. V. S. Agrawal, "Terracotta figurines of Ahichchhatra, District Bareilly, U. P.," *A.I.*, no. 4, p. 137, pl. XLVIII, B.

³ D. Barrett, "Facade of a miniature shrine from Kashmir," *The British Museum Quarterly*, XXXIV, No. 1-2, pp. 63-66.

⁴ Please see p. 101.

⁵ H. Goetz, "The mediaeval sculptures of Kashmir", *Marg*, VIII, No. 2, p. 66.

⁶ Please see p. 101.

⁷ Moti Chandra, pls. 8-9.

⁸ The theme is Indra's visit to the Buddha when the latter was staying at the Indraśūla cave near Rajerihā. He was accompanied by his harpist Panchasikhi, who sang hymns in praise of the Buddha and then announced Indra's arrival. Indra posed certain philosophical questions, answers to which were readily furnished by the Buddha. cf. *Sakkapanha Suttanta* (*Dīghanikāya*, II, pp. 263 ff.); see also V. P. Dwivedi, "The Kashmir ivories", *Chhavi, Bharat Kala Bhawan Golden Jubilee Volume*, pp. 325-326, figs 471-74.

the left and right lower corners. Indra is identified by his crown, reverential pose and the *vajra* held in his left hand, and Panchśikhā by his harp. The theme was quite popular in north-west India.¹

The Buddha is flanked by two comparatively larger standing Buddhas, each in his own niche within the wooden frame. The haloed figure on the right is clad in a robe, and is shown walking on a double lotus pedestal. His face is slightly turned to the left towards the main figure. A small figure in *anjalinudrā* sits near his feet. The other figure, similar in attire and attitude, stands in another niche to the left of the central Buddha and faces right, i.e. towards the main figure.

The wooden frame, in which all these figures are enshrined, is in the typical Kashmir style. The side niches are trefoil-arched,² but the bigger central niche has been given a geometrical treatment. All the three arches are surmounted by triangular pediments, a typical characteristic of the 8th century Kashmir architecture.³ The rope and bead design on the side pillars is the same as seen on the Martand pillars.⁴ Even more surprising is the fact that the sizes of the British Museum Bodhisattva and its frame are exactly the same (14×14.5 cms) as those of the Kanoria ivory. Then the frames have almost the same design and figures. This not only indicates that they were produced by the same guild of artists, but also shows that perhaps there were standardised sizes for such portable shrines. Of course, in the case of ivory, the main consideration must have been that of the availability of tusks in a particular size. Therefore, on the basis of architectural features as well as facial characteristics—oval face, full cheeks, small mouth, arched eye-brows, prominent nose and fat chin—the wooden shrine and the ivory Buddha figures can be assigned to 8th century Kashmir.

Standing ivory Buddha

The Buddha stands facing left accompanied by two attendants⁵ (Pl. 83). One of his hands is lost and the other holds the hem of his robe. The robe covers his left shoulder only and arranged in string-ridged folds falls up to anklets. He is shown bare-footed. His face, besides having the usual Kashmir features, has a drooping moustache and beard⁶ painted in black, which is most unusual. The hair is also painted black. His ears are quite elongated and have big holes. The partly shown attendant figure with folded hands, too, has a similar beard and moustache. In all likelihood the beard and moustaches were painted at a later date. The conical cap worn by the attendant holding the flower tray is another unusual feature. However, it shows definite Kashmir features in the treatment of the faces, in the Bodhisattva's standing posture, as well as his robe, and can be dated to the 8th century.⁷

Ivory Manjuśrī

The figure shows Manjuśrī standing facing right, accompanied by two attendants and a garland bearer⁸ (Pl. 84). Faint traces of paint can still be seen at place. He is wearing an almost transparent lower garment reaching down to the ankles. The belt around his waist has two hanging vertical straps which support a dagger in a horizontal position, which is quite uncommon.⁹ His left hand is holding a floral wreath, while the right is held near the left shoulder. His shoes are pointed with toes turned up. He is wearing typical Kashmir crown, necklace, armlets, bangles and *vanamālā* reaching well below the knees.¹⁰ An adoring figure sits at his feet, while another, imitating the gesture of the divinity's right

¹ H. Ingholt, *Gandharan art in Pakistan*, figure no. 3 of pl. XVIII and figures 128 to 135.

² Trefoil-arched niches occur on the Martand temple in Kashmir as well. H. Goetz, "The mediaeval sculptures of Kashmir", *Marg*, VIII, no. 2, p. 66.

³ *Ibid.*

⁴ *Ibid.*, fig. 3.

⁵ Sri G. K. Kanoria Collection, Patna; height, 10 cms.

⁶ Bearded figures, perhaps representing a foreign devotee of Buddha, do appear in the contemporary bronze sculpture

(see: Sherman E. Lee, *Asian Art*, p. 21, fig. 10), but Buddha himself having a beard is not known.

⁷ V. P. Dwivedi, "Ivories of North-West India", in *Aspects of Indian art*, p. 76, pl. XXXIX b.

⁸ Sri G. K. Kanoria Collection, Patna, height, 10.6 cms.

⁹ A bronze Surya from Kashmir in the National Museum also shows the sword hung in the same manner.

¹⁰ Similar treatment is seen in figs. 51, 58 and 59 in *The Arts of India and Nepal, The Neeli and Alice Heeramanek Collection*, Pub. by Museum of Fine Arts, Boston.

hand, stands behind. A garland bearer is seen near his head.¹ The Bodhisattva has a full ovaloid face, pointed nose, a small mouth and a fat chin. Stylistically, this figure can also be attributed to 8th century Kashmir.²

*Buddha attacked by the evil forces of Mara*³

The Cleveland Museum of Arts has recently acquired a small plaque (14.3×8.9 cms) showing Buddha seated in *Bhūmiśparśamudrā* attacked by the evil forces of Mara (Pl. 85). These figures, though small in size, show the Mara forces blowing conches, making noise and attacking Buddha with weapons etc. Two charming female figures, seen near his shoulders, are trying to distract Buddha's attention. Buddha's face is radiant with faint smile, perhaps aroused from the vain attempts of Mara's army. One of his shoulder is covered with *saṅghāti*, while the other is bare. Traces of gold and other colours are visible at places. Stylistically this, too, can be assigned to 8th cen. A.D. Kashmir.

*Two female chauri-bearer figures*⁴

Two miniature figures of chauri-bearers (7.6 cms) have also been acquired by the Cleveland Museum of Art (Pls. 86 and 87). Both of them are wearing profuse jewellery including a long *Vaijayanti* type garland coming down to their ankles. While one of them has her left hand near her mouth in wonder attitude, the other one has kept it near her waist. Both have decorated head-dress, and down-cast eyes in reverence. In all likelihood these figures formed part of miniature shrine and were flanking a seated Buddha or Bodhisattva figure as noticed in the Kanoria collection.⁵ These, too, belong to 8th cen. A.D. Kashmir.

Indra's visit to Buddha at Indraśāla guphā

The famous Rockefeller 3rd collection of New York has an ivory carving (size 9.8 cms) showing Indra's visit to Indraśālaguphā.⁶ Like the Kanoria collection of ivory the Buddha is seated cross-legged in meditation with both of his hands in his lap. Indra, with a thunderbolt in his hand, is seated below on his right and Indra's harper, Panchasikha, is seated on his left. A host of other figures are seen around him. However, unlike the Kanoria ivory, where some of these minor figures are gesticulating towards Buddha, here all the figures are in receptive mood and are bowing towards Buddha in reverence. Two lions are seated below Buddha's seat. Buddha is putting on usual *saṅghāti*, with collar like folds on both the shoulders, and has a smiling face. This, too, can be assigned to Kashmir and a date around 800 A.D.

Conclusion

The foregoing description of ivories makes it clear that the Gupta artists were not very productive in the ivory medium, and only a few ivory objects can be assigned to that period. This is rather surprising as it is during the Gupta period that India was at the height of prosperity and artistic achievements. Ivory is an expensive material which can be afforded by the rich only; and normally one would think that this period must have used ivory extensively. But little has been found in the excavations of ancient Gupta sites, of which only a few have been excavated.

As against this, the later Gupta period, which was not so prosperous, has left behind a number of ivories of exquisite workmanship. These ivories help us draw the following interesting conclusions:

¹ Almost all the Kashmir ivories discussed so far (see pages 101 to 104) show garland-bearers. Same is true of Kashmir wood-carvings of the period, cf. D. Barrett, *op. cit.*

² V. P. Dwivedi, 'Ivories of North-West India', in *Aspects of Indian Art*, p. 76, pl. XL a.

³ Antiquity No. 71.18 reported in *The Bulletin of the Cleve-*

land Museum of Art, for Jan. 1972, figure 139.

⁴ Antiquities No 72.35 and 72.36; published in *the Bulletin of the Cleveland Museum of Art* for March, 1973, fig. 232.

⁵ Please see page 104.

⁶ Sherman E. Lee, *Asian Art, Selections from the collection of Mr. and Mrs. John D. Rockefeller 3rd*, Part II, fig. 3.

That the Kashmir region was quite a productive centre of ivory carving during the 8th century. However, patronage seems to have been extended by the Buddhists only, as only the figures of the Buddha and Bodhisattvas have been found, and none of any Hindu deity.

That most of Kashmir ivory figures were in the form of portable shrines which found their way out of that region to Tibet, Nepal and other adjoining areas through students and pilgrims who visited Kashmir. Later colouring shows that they were constantly under worship and came back to India after the Tibetan debacle.

That the British Museum Bodhisattva shrine as well as the Kanoria Buddha shrine make us believe that originally all these ivories were enshrined in a wooden frame, a conclusion supported by the way other ivories are carved. As both the wooden frames are of the same size and other ivory figures are of the size of the ivories enshrined in these two, one is inclined to think that perhaps all these were produced by a guild which had standardised sizes for such portable shrines and their figures.

Early Mediaeval Bone and Ivory Carvings

Historical background

The beginning of the period saw the emergence of the Pāla rulers in eastern India. By the early part of the 9th century they were quite powerful in northern India also. The long reign of the great king Dharmapāla (c. 770-810 A. D.) marks the apogee of Pāla power.¹ The Pāla kings are chiefly notable for their patronage of Buddhism, which spread as far as Nepal and Tibet during their rule.² The most powerful rulers of northern India in the 9th and 10th centuries were the Gurjara-Pratihāras.³ The foremost Pratihāra kings Mihira Bhoja (c. 840-885 A. D.) and Mahendrapāla (c. 885-910 A. D.) pushed back the Pālas and were overlords of most of northern India. The Chandellas rose to power with the decline of the Gurjara-Pratihāras. In the eleventh century Northern India witnessed seventeen invasions of Mahmūd of Ghazni, who plundered palaces and temples alike, and carried away enormous booty from the country. Later, by the end of the 12th century (in 1192 A. D.), another Muslim invader, Muhammad of Ghor, defeated the last of the great Hindu kings, Prthvīrāja Chāhamāna. Though Muhammad returned to his country, his General Qutb-ud-dīn Aibak, became the first Sultan of Delhi in 1206 A. D.⁴

In south India the Colas emerged supreme by the 9th century. The Pallava territories were annexed by the Cola kings of Tanjore, Aditya I (c. 870-906 A. D.) and Parāntaka I (906-953 A. D.). The most notable of the Cola kings were Rājārāja (985-1014 A. D.) and Rājendra I (1014-1042 A. D.), in whose reigns the power of the dynasty reached its zenith. The latter sent out a great naval expedition, which occupied parts of Burma, Malaya and Sumātra. The Colas declined in the 13th century, when their territory was shared by the Hoysalas of Mysore and the revived Pāndya dynasty of Madurai. But the Deccan was soon to feel the force of Islam, which was already ascendant in northern India. Once the Sultanate was securely established at Delhi, and Islam was enthroned as the supreme political power, the Hindus were subjected to civil disabilities and other indignities; and thus, by the end of the 13th century, Indian society underwent a far-ranging transition in the wake of Muslim ascendancy.

The mediaeval society

The history of the period, from 800 to 1200 A. D., is full of ups and downs. Economic prosperity went hand in hand with galling inequality; and the overall picture was one of interminable wars and

¹ R. C. Majumdar (Ed.), *The Age of Imperial Kanauj*, pp. 44-52, *The Struggle for Empire*, pp. 24-31.

² *Ibid.*, p. 58.

³ B. N. Perl, *History of the Gurjara Pratihāras*.

⁴ R. C. Majumdar (Ed.), *The Struggle for Empire*, p. 130.

conflicts. The unstable political equilibrium was assailed and shattered by the Muslim onslaughts; the people were at their wits end; they had to protect their religion, culture and social order.¹ External danger made the Hindus more and more rigid in their organisation based on caste and class to guard against the possibility of pollution. Narrowness and parochialism promoted the 'frog in the well' attitude; the *dharmaśāstras* were invested with greater sanctity, beleaguered Hinduism was on the defensive. Escapism became the order of the day, and new sects arose, professing their faith in wine and women, in profligacy and extreme self-indulgence as the sure and single path leading out of trouble. While the standards of Hindu culture declined in northern India after the Gupta age, the Deccan did not suffer any deterioration of the kind.² The Pallavas as well as the Colas were great patrons of art and literature. The Tamils preferred metal to stone, and produced some of the best specimens of bronze images during this period.³ Increasing naval knowledge and contacts with the outside world increased trade and commerce and brought prosperity to the people. The Hindu rulers vied with one another in making their courts peerless centres of art, learning and literature. Later, during this period, the contacts between the Muslim conquerors and their subjects brought their own results. Hindu artists, musicians and dancers thronged the courts of the Sultans and their governors. But the Hindus remained dominant in the spheres of trade, commerce and banking, and the Muslim rulers, however intolerant, had to treat the mercantile community with consideration.⁴

An important feature of this period was that although kings waged wars, lost or won or died fighting, the villages, more or less self-sufficient economic and social units, continued to lead their own life.⁵ In general, the masses lived simply but well, the middle-classes lived in comfort, and the rich led a life of plenty and pomp.

The International contacts

The period saw the development of a number of new international contacts. In North India the Muslim invaders came from the Middle East, followed by a perennial stream of Muslim adventurers. On the other hand, India also despatched its armies from the South to conquer new kingdoms and to form a *Dvīpāntara Bhārata*—'India beyond the seas'.⁶ It comprised Ceylon, the Malay Peninsula, Sumatra, Java, Bali, Borneo, the kingdom of the Sailendras, Pagan and Kamboja in south-east Asia.

Trades were organised into guilds with a department of the state to look after them. Broach and Cambay, the two ports of Gujarat, carried on a large international trade. Spices, dyes, textiles, perfumes, ivory, wood and leather goods formed the principal items of export. Import comprised gold, silver and horses.⁷ A brisk trade was carried on with Sumātra and Java. Indian merchants were known for justice, good faith, honesty and fidelity to their engagements.

Malabar also had international centres of trade, visited by ships from the Persian Gulf and the Arabian Sea, as also from South India. Its imports included metals, textiles, fabrics, frankincense, etc. Horses constituted by far the largest item of import. Export items included spices, precious stones, pearls, silk, gold and ivory. The Cola-mandala abounded in ivory.⁸

Technical knowhow

As time advanced, technology made rapid strides. Contacts with countries outside India increased. Big-size boats were made which could withstand the rough weather of the seas for longer spells of time. Such vessels were used for trade and commerce⁹ as well as for waging wars.¹⁰

¹ R. C. Majumdar (Ed.), *The Struggle for Empire*, pp. 414-503.

² G. Yazdani, *Early History of the Deccan*.

³ C. Sivaramamurti, *South Indian Bronzes*.

⁴ R. C. Majumdar (Ed.), *The Struggle for Empire*, Chapter on 'Economic condition' by U. N. Ghoshal, pp. 515-524.

⁵ *Ibid.*

⁶ R. C. Majumdar, *Ancient Indian Colonisation in South*

Asia.

⁷ *Mānasollāsa*, IV, 669-75.

⁸ Chao Ju-Kua, *Chü-fan-chi*, Translation by F. Hirth, and W. W. Rockhill, p. 96.

⁹ R. C. Majumdar (Ed.), *The Struggle for Empire*, pp. 520-521.

¹⁰ *Ibid.*, pp. 730-773.

Temples at Khajuraho¹ and Bhuvaneshvara² testify to the skill of the ironsmiths in manufacturing such sharp tools as could help produce the minutest details. The most fascinating remains of the skill of iron-smiths of the period are the iron-beams, all of iron, in the temples of Bhuvaneshvara, Puri and Konārka. The iron pillar at Dhara is reputed to have been the highest pillar of its kind in the world, and provides evidence of notable technical achievement during the period.³ Bronze-casting reached its zenith during this period. The famous Kurkihara hoard⁴ provides testimony of eastern Indian craftsmanship; and the Chola bronzes in the south produced during this period still remain unsurpassed in beauty and technique.⁵ Carvings in other media, wood and ivory, also progressed, and here, too, the stress was on minute details rather than expression. Even the ivory carvings were given a metallic finish.

EARLY MEDIAEVAL BONE AND IVORY CARVINGS

The Maññan Avalokiteśvara

The figure⁶ is in a slightly *tribhāṅga* pose. Unfortunately, both of its hands and the diadem are missing, making it difficult to identify the deity. The full squarish face is lit up with a noble smile. He has half-closed eyes with deeply curved eyebrows, a straight prominent nose, a short chin and a squat neck marked with triple lines. The well modelled chest is broad, the navel deep; and the legs show the curvature of flesh and are in the same position as in the ivory figure of Lokanātha in the Prince of Wales Museum, Bombay.⁷ Traces of colour can be seen on the body, the hair and the eyes. The jewellery which he is wearing includes rosette shaped earrings, a short beaded necklaee, armlets and *vanamālā* reaching below the knees, a typical characteristic of the mediæval Kashmir.⁸ The *dhotī* does not completely cover the legs, but goes round the waist, being longer on the right than on the left. The front is creased and from the waist hangs a triangular pleated end. The undulation of the *dhotī* border between the legs is clearly marked. Similar treatment of drapery may be seen in the Kashmir bronzes.⁹ The figure bears a close resemblance to the Kashmiri bronze sculptures of the 9th century A.D.,¹⁰ and can, therefore, be assigned to that period.

Buddhist image at Rildigang, Tibet

This image was seen by G. Tucci¹¹ in the small chapel of Rildigang, and the only description we have is that it was 'better preserved' than the Bodhisattva described above. It seems that in mountainous Tibet ivory images had special significance because of the rarity of the material in that part of the world.

Ivories found at Brahmanabad, Sindh

Brahmanabad, Sindh, is now in Pakistan. The place is very old, and has from time to time, yielded many antiquities of importance. Among these the most important and controversial are the ivory finds.

These finds were first reported by A. F. Bellasis¹² who described these as chessmen. The fact that these pieces were of varying heights and had pegs in them made him think so. He thought that these

¹ (i) Vidya Prakash, *Khajuraho*.

(ii) R. Awasthi, *Khajuraho ki Deva Pratimayen* (Hindi).

² R. L. Mitra, *Antiquities of Orissa* (2 vols.).

³ Now in three pieces, originally it must have reached a height of 50', cf. Panchanan Niyogi, *Iron in Ancient India*, pp. 21-30.

⁴ K. P. Jayaswal, 'Metal images of Kurkihar monastery', *J. I. S. O. A.*, II (Dec. 1934), 70 ff.

⁵ D. Barrett, *Early Chola Bronzes*.

⁶ G. Tucci, 'Indian paintings in Western Tibetan temples', *Artibus Asiae*, VII, pp. 202-203, fig. 15.

⁷ Motichandra, p. 47 (Please also see Chapter VII, p. 101-02).

⁸ *Ibid.*

⁹ Museum of Fine Arts, Boston, *The Arts of India and Nepal: The Nasli and Alice Heeramaneck Collection*, p. 62, pl. 51 and 58.

¹⁰ *Ibid.*

¹¹ Tucci, G., *op. cit.*, p. 202. Rildigang is quite near to Raduis, the birthplace of the great divine Rinchen-Sangpo (A. D. 958-1055), who studied at Kashmir. At Raduis, we are told in his biography, Rinchen-Sangpo himself dedicated an ivory statue of the 'Compassionate One', presumably the Bodhisattva Avalokiteśvara.

¹² A. F. Bellasis, 'An account of the ancient and ruined city of Brahmanabad in Sind', *J. B. Br. R. A. S.*, 5 (1856), pp. 413-425.

were like the chess pieces played on board-ship. But he failed to notice some other important facts.

Henry Cousens was the other scholar who discussed these ivories.¹ He rightly pointed out that these could not have been chessmen and that they were more probably furniture balusters. He noticed that some of these pieces had not only pegs but holes also, which made it evident that they were part of furniture railings.

Lately, these ivories have formed the subject-matter of a paper published by Douglas Barrett.² He is of the opinion that these objects formed part of a box or boxes. All these pieces, about 15 in number, were found close together, some injured by fire. The largest piece is about ten cms long, and several of these show a dowel at top or bottom. In some others even corroded iron rivets still remain fixed. Some pieces have a curved ridge at top and bottom and presumably formed the ends of the box. The subjects carved in relief on the ivories include female figures holding a flower, a mirror or what appear to be a *chauri*; elephant and lion, *makaras*, a flying *gana* and scrolled foliage. Two of the best preserved pieces out of the lot are described below :

(i) A standing female figure holding a flower in one of her hands, the other holding the hem of her *dupatta* (Pl. 88). She is wearing a *dhoti* which comes down to her ankles, while the upper-half of her body is bare. The *dupatta* encircling the arms goes behind the back leaving the front bare. She is wearing spiral ear-rings, a pearled necklace, a pearled girdle, bracelets and anklets. Her eye-brows are arched, her lips thick and her chin broad.

(ii) The other figure shows a lady looking into a mirror (Pl. 89), a very common theme in contemporary stone sculptures.³ The lower part of her body is damaged and lost. She, too, has similar facial features, and her hair is arranged in a bun. One of her hands is resting on her thigh, and the other holds a mirror.

On stylistic grounds, such as arched eye-brows, dimpled chin and heavy lips, as well as pearled necklaces, etc., these ivories have a marked similarity to the 10th century sculptures of Central India,⁴ and could be assigned to that period and region.

Ivory stupa at Seattle Museum

It is a 4.5 cms. high three tiered stupa⁵, with a modified cruciform cross-section (Pl. 90). The top is a flat platform, now empty, but with a square-cut hole indicating that something, originally fixed here, is now gone. The four sides are carved with as many as fifty-three figures, thirty-seven Buddhist deities and sixteen animals. The base shows cracks in a moderately ringed conformation radiating from the centre. The colour of the ivory varies from a rich deep brown of great depth and beauty to a creamy-white. One side is somewhat discoloured, and has a chalky cast.⁶ Almost all the faces of the images are worn, owing to regular rubbing and cleaning for purposes of worship.

The first register or the upper most tier consists of three Buddha images on each of the four sides. The central image on each side is slightly larger than the others, and is distinguished by a rectangular throne in addition to the circular halo. The central images in the second zone are much larger than the side images, and in addition are placed on a projecting and slightly depressed square-backed throne. The third zone is quite complicated and can be divided into three units. The corners are supported by powerful dwarf-like figures. The centre, which is actually the base of the principal figure's throne, has lion-thrones on two sides, with two small dwarfs above; and on the other two sides, lotus thrones with dancing dwarfs for support, and two small lions above. Further, the deeply recessed

¹ Henry Cousens, "Excavation at Brahmanabad, Mansura, Sind," *A.R.A.S.I.* 1908-09, p. 85.

² D. Barrett, "A group of Mediaeval Indian ivories", *O. A.*, I, no. 2, p. 1. (Now this group of ivories is in the British Museum, London).

³ Vidya Prakash, *op. cit.*, fig. 26.

⁴ D. Barrett, *op. cit.*

⁵ Sherman E. Lee, "An early Pala ivory", *J.I.S.O.A.*, XVII, pp. 1-5.

⁶ It would seem that this side was more exposed than others and hence this deterioration.

spaces between the centre and corners have supporting elephants indicated by their trunks, heads and ears, seen only frontally. Each register is separated by a simple beaded border. Again, the beaded border is seen around the halos and thrones of all the deities.

The above description¹ thus makes it clear that the lowest zone represents the carnal or material world. The middle zone stands "between Heaven and Earth", the realm of the Bodhisattvas. The top zone, the simplest of all, is the residence of the Buddhas in heaven or Paradise.² The ivory is a true micro-cosm, a world *maṇḍala* in miniature. The great stupa at Borobudur shows a similar three-tier arrangement.³ The top platform, therefore, must have had the Supreme Buddha, Vairocana, as seen in the other *maṇḍalas* of *Mahāyāna* Buddhism. The image itself could have been enshrined in a niche surmounted by an āmalaka to complete the architectural form.⁴

As regards its provenance and date, the eastern Indian examples provide interesting parallels. Rounded and pliant, the figures are full of lissom grace, and wear a serene expression on smiling faces. The curious *padmāsana* posture of the legs, not one above the other, but side by side, can be found in the early Pāla bronzes.⁵ The beaded border of the throne backs and halos is noticeable in the Nalanda bronzes⁶ as well. The lion-throne with its pearl-studded covering finds close parallels in the *śimhāsanas* of the Kurkihar bronzes.⁷ The stupa can, therefore, be assigned to the eastern India of the 10th century A.D.

Ivory chessman at the Bibliothèque Nationale, Paris, France

The object shows a king on the back of an elephant,⁸ seated on a semi-circular howdah, the exterior of which is carved with the figures of eight soldiers under arches carrying straight swords and circular shields (Pl. 91). The soldiers wear tight-fitting shorts. The manner in which the king is seated in his howdah is quite interesting. The foreshortening of the leg is noteworthy. His face has been carved quite realistically, and he wears a flat turban, a necklace, armlet, bracelets and anklets. The royal elephant is heavily armoured and has caught a cavalryman in its trunk; and the elephant driver seems to have slipped down the trunk, head down and legs up. There are two horsemen on either side of the elephant. One of these mounted soldiers on the right side of the king carries a slightly curved sword and a circular shield, while the other carries a battle-axe and a straight sheathed sword attached to a strap. The soldiers on the left of the king carry naked swords and circular shields. All of them wear peaked caps, which may well be helmets. Like the elephant, the horses are also fully caparisoned and look majestic. The base is decorated with rows of beads.

The base of the ivory bears an Arabic inscription (Pl. 92) which has been read in various ways : Migeon read and translated it as "the work of Yūsuf in Nihili," Ajit Ghose read it as "min amal, nu.....al Ahili", and identified Ahili with Aihole in Bijapur, District Mysore.¹⁰ Moti Chandra gave it yet another reading "*min 'amel Yusuf al-Bahili*".¹¹ The presence of an Arabic inscription on a purely Indian piece is also puzzling. It is difficult to say whether some Arab ivory carver working in Indian style put his name on the ivory, or whether its Arab owner got his name inscribed on it. On stylistic grounds the inscription has been dated later than the 9th century. The question of this ivory's date and provenance has been quite controversial. It was believed earlier that the ivory belonged to the collection of Charlemagne, and could, therefore, be dated to c. 800 A.D. or earlier.¹² But a

¹ Dr. Sherman E. Lee has told me that he discovered the ivory stupa in a Japanese curio shop about 20 years back. Its discovery in Japan, a Buddhist country, is interesting. Could it have gone there as a Buddhist votive object? Where was it before reaching Japan? Did it reach there through some S. E. Asian Buddhist country?

² Sherman, E. Lee, *op. cit.*, sketch opposite page 4.

³ B. Rowlands, "Borobudur". *Art in America*, 29, pp. 114-127.

⁴ Margaret F. Marcus, "Sculptures from Bihar and Bengal", *The Bulletin of the Cleveland Museum of Art*, LIV, No. 8,

pp. 240-262, fig. 21.

⁵ *Ibid.*, pp. 240-262.

⁶ A. K. Coomaraswamy, *History of Indian and Indonesian art*, fig. 233.

⁷ S. A. Shere, *Bronze Images in Patna Museum*, 8 and 29.

⁸ Ajit Ghose, "Some old Indian ivories", *Rupam*, No. 32, pp. 122-129.

⁹ Migeon, *Manuel D'art Musulman*, I, p. 364 ff.

¹⁰ Ajit Ghose, *op. cit.*, p. 124.

¹¹ Moti Chandra, d. 51.

¹² Ajit Ghose, *op. cit.*, p. 123.

minute scrutiny¹ of the oldest inventory of the Treasure of St. Denis has revealed that the above belief was based on a misreading of the records; and hence the hypothesis is untenable. But then the 15th century date proposed by Douglas Barrett on the basis of four cornered headdress worn by some of the soldiers and their round shields and curved swords² is also equally questionable. The bold and realistic treatment of the human and animal figures, their dresses and ornaments, all point to an earlier date. The most important factor is the 9th century Arabic inscription on the base, which precludes a later date. Stylistically, the ivory has certain Deccani features, especially in the representation of the caps. It is a well-known fact that the Rāshtrakūtas patronised the Arabs, and it is possible that one of the Arab visitors to the Rāshtrakūta domain got hold of this ivory, which might explain the presence of the Arabic inscription as well.³ It is, therefore, quite reasonable to assign this ivory to the 9th century Deccan.

An ivory female dancer

The Prince of Wales Museum at Bombay has an exquisite example in ivory carving showing a danseuse⁴ in a vigorous dancing pose. Her head is bending to the right, and she has an ovaloid face with arched eyebrows. There are two lines below each eye-brow indicating painted decoration. The eyes are fish-shaped; the pointed nose has broad nostrils; the thick lips are dilated and the sharp chin is well moulded. The left hand holds delicately the sling which passed round the left ankle carrying a musical instrument, now broken. Her right hand is also broken, but probably it was raised in the *gajahasta* pose as can be guessed from the dancing pose. Her torso is narrow, but she has well developed breasts. Two pearl-necklaces hang between the breasts. A *vanamālā* made of rosette plaques, hanging down knee, passes under the left thigh and then disappears. She is wearing a *sūri*, which is reaching the ankles and is secured to the waist with a girdle decorated with the central loop of a pearl-string tasselled at both ends. From the centre of the girdle falls the *paṭkā* in palmate folds secured to the base with a cylindrical projection. She also wears armlets, bracelets and anklets.

The rectangular base cut at both ends is in the form of a lotus. The reverse of the figure is roughly finished. It has acquired a deep brown shade owing to its age. According to Moti Chandra, it is a fine example of 12th century Chalukya work.⁵

Ivory plaque showing mithuna couple

The plaque, now in the Asutosh Museum of the Calcutta University, shows an amorous couple. Though the ivory has suffered much owing to weathering, yet certain details are clearly visible. The couple is seated on a high-backed rectangular *dhvān* which rests on a base decorated with a fringe of lanceolate pattern. The male partner, seated in *ardhaparyāṅkāsana*, has a round face, a large nose a smiling mouth, full cheeks and a fat pointed chin. His hair is tied behind in a knot, and the head is close set on the torso. He wears a necklace and bracelets. The face of the female partner is very much damaged, but its roundness is apparent. She is seated comfortably with one hand around the neck of her lover, and the other resting on her lap. The lover is shown caressing her well developed breast. She has a narrow waist and wears ear-rings, a necklace, anklets and a diaphanous *sūri* marked with parallel folds. The figures bear a close resemblance to an amorous couple in stone from Orissa,⁶ and can be assigned to the late 12th century.

Throne legs from Orissa

Orissa was famous for its ivories from the time of the Periplus.⁷ The tradition seems to have continued for centuries. Later ivory carvings show that the Orissan carvers excelled in making throne legs.⁸ At least two such throne legs fall under our scope, and are described below.

¹ D. Barrett, "A group of Mediaeval Indian ivories", *O. A.* (N. S.), No. 1, pp. 47-51.

² Moti Chandra, p. 52.

³ *Ibid.*, p. 52-53.

⁴ *Ibid.*, p. 53, pl. 11 b.

⁵ *Ibid.*, p. 53.

⁶ Stella Kramrisch, "Kalinga Temples", *J.I.S.O.A.*, 1944, p. 57, plate XX.

⁷ W. H. Schoff (Tr.), *The Periplus of the Erythraean Sea*, 62.

⁸ V. P. Dwivedi, "Ivoires Indiens", *A.A.*, XVI, pp. 59-67.

The ivory throne leg at the Freer Gallery, Washington¹ (Pls. 93 and 94) is 35 cms high. The subject represented is a *gajasimha* standing up on his hind legs, holding between his front paws the body of a pot-bellied warrior who is dangling upside down, held by his left leg in monster's trunk. The *gajasimha* is standing on a mountain, the details of which emphasize his gigantic size. His tusks are short and sturdy and the eyes small and round. In his trunk the monster holds his victim's left leg, which he seems to have broken, and with his left forepaw he tears at the warrior's right leg. The sharp claws of the monster resemble talons emerging from sausage-like toes.

The warrior dangling upside down is trying to protect himself from the monster's claws with the help of a small round shield in his left hand. His striped *dhoti* shows flowers arranged in rows of varying design and is held up by a girdle set with two rows of pearls. His round eyes are bulging out with pain, and the mouth is distorted, showing all his teeth and a protruding tongue. His hair fans out in a circle around his head.

The rocky mountain on which the *gajasimha* stands has been carved with equal care. Going round the sculpture clockwise, we first discover a tiny human figure, presumably a hermit, seated in a cave. To the left a tree is casting its pleasant shade over the entrance of a cave, a parrot perched on one of its branches. Further to the left a wild buffalo squats in front of another cave. Higher up, an elephant emerges from the jungle. Above him, a playful monkey, seated on the branch of a tree, bends forward with its head dangling upside down. Along the foot of the mountain various animals are shown in the undergrowth. An archer and a hunter are also seen in the jungle.

These manifold details, men, beasts and birds, are executed with an intimate knowledge, and their natural attitudes and movements betray the master's hand. He is equally at ease while depicting the agony of the man captured in the trunk of the elephant, and the force with which the hunter is stretching his bow. The artist has paid the same attention to the main figure of *gajasimha* as to the small beasts. The circular base of the sculpture consists of a flat moulding from which a row of lotus petals springs supporting another flat moulding. The top of the ivory takes the form of a flat square support placed diagonally on the *gajasimha*'s head. The top of the support shows a rectangular mortise, indicating that our ivory at one time formed part of an object or a construction in which it had a supporting function. Ancient reliefs show that thrones had such legs in the form of *gajasimha*.² Many later examples showing this motif on the throne legs are known.³ It would, therefore, seem reasonable to suggest that the Freer ivory once formed part of a seat or a throne. As for the place of origin and date, Konarak provide us with striking parallels. The demon warrior holding a small round shield and a curved dagger finds an exact parallel in the demon trampled down by a *gajasimha* (or a *narasimha*) at Konarak.⁴ Another striking feature is the careful and minute precision of the jewellery of the monster, which tallies with such renderings in the art of Konarak. Therefore, the ivory carving can be assigned to Orissa and was probably manufactured in the closing years of 12th century.

The other throne leg is in the Philadelphia Museum of Art⁵ (Pls. 95 and 96) and in all probability belongs to the same set of throne legs as the one described earlier. It shows a *gajasimha* standing on high mountains on his hind legs and holding a demon in his trunk. The *gajasimha* has seized and holds in its coiled trunk the left leg of the demon, while the claws of the left foreleg dig into demon's right thigh. Even while dangling down, the demon brandishes a dagger in his right hand while the *gajasimha*'s right forepaw clutches the small circular shield attached to and raised on the demon's left arm.

¹ Van Lohuizen de Leeuw, "Indian ivories with special reference to a mediaeval throne leg from Orissa", *A.A.*, VI, 3, pp. 195-216.

² J. Auboyer, *Le trône et son symbolisme dans l'Inde ancienne*, pp. 41-43.

³ Moti Chandra, "Some old Ivories from Orissa", *Purāṇajali*, pp. 37-39.

⁴ O. C. Gangoly, *Konarak*, pls. 65, 66.

⁵ Stella Kramrish, "Early Indian ivory carving", *Philadelphia Museum of Art Bulletin*, LIV, no. 261, pp. 55-66.

Mountain, beast and demon form one carved volume. Its slight forward tilt was dictated by the natural curve of the tusk from which it was carved, and this makes the elephant head project beyond the square corner-support of the seat which thus rests on the forehead and on the tip of the tail.

The mountain, on which the *gajasimha* stands, has many crevices. Between the crevices a long stemmed tree struggles towards the top, on either side behind the demon. A diminutive boar emerges from a crevice at the base of the mountain. Another miniature boar leaves its den on the other side of the mountain and moves in the opposite direction, while yet another boar-like head peeps out from an arched lair higher in the mountain. A creature with the horns of a ram peers from a cavern near the foot of the mountain. Man and horse halt a cliff behind the demon's dagger-wielding arm. An antelope with its head turned back surmounts this group. Thus, the mountain teems with miniature animals, moving in and out of caves. Besides the wild beasts described above, others are : elephants, an heraldic lion, a parrot, antelopes, rhinoceros and a giant lizard. Two archers are also seen to complete the hunting scene. Another human figure is a hermit who squats resting hands on knee and chin on hands.

The *gajasimha* is more richly jewelled than the demon. Beaded chains with pendants or bells are wreathed round its forehead and rest on its chest. The lion's mane is also decorated, staggered in four tiers of striated locks on the back, clinging like a necklace to its throat and chest. The curve of the tail raised along the rearing back is elaborated, plant like, with leaflets and flower buds. The demon's physiognomy is of pure Orissan type and finds its parallel in the Konarak temple.¹ However, in the ivory the head is more summarily treated than in the monumental stone sculptures. The hair curling up in horripilation fans out flange-wise at the back of the head to which its ribbed surface elings like a cap. The dilated eyes with pupils marked, the distended mouth with upturned moustache and teeth exposed, the powerful and noble snorting nose are common. The beaded necklace worn by the demon is quite similar to the one worn by the Konarak figure.² Therefore, on the basis of the similarities described above, the ivory throne leg can be assigned to the closing years of 12th century Orissa. Further, the common motif, similar treatment and same size make one believe that this leg belongs to the same set as the one in the Freer Gallery described earlier.

Lion shaped throne support

The Victoria and Albert Museum, London, has a pair of lions (Pl. 97) which must have once served as supports to some royal throne.³ The taut modelling and decorative elegance of these lions are in the best tradition of mediaeval Indian art. They have a rare combination of a high degree of stylisation and naturalism, the first represented by the treatment of the mane, and the latter by the studied grace of the haunches and hind-legs. The lions are seated on an oval ivory platform and both of them carry on their heads a round support each, on which must have rested the throne. The lions have broad chests and narrow waists, in accordance with the classical Indian tradition. Their faces are fashioned after the *kirtimukha's* demons⁴ and lions⁵ found in Mediaeval Indian art. The goggle-shaped eyes, arched eyebrows, big nostrils, broad and fierce mouths with protruding teeth, and curled mane all remind us of the similar treatment found in Orissan⁶ and other eastern sculptures. In fact, mediaeval architectural examples abound in the lion's representation⁷ which symbolised vigour and power. The conclusion that these belong to the eastern parts of the country is further supported by the inscriptions in proto-Bengali characters on the bases of these lions. These read; *Śrī Bhāgini* (Auspicious co-heiress) and *Madhyam Mahā* (Great middle-born). On the basis of these inscriptions as well as of style they could be safely assigned to the late 12th century. The British Museum, London also has a similar ivory lion which, in all probability, belongs to the same set of throne legs.

¹ H. Zimmer, *The Art of Indian Asia*, II, figs. 364, 365 & 374.

² *Ibid.*

³ Victoria and Albert Museum, *A Brief Guide to Indian Art*, fig. 25 (No. I. S. 269-1960)

⁴ H. Zimmer, *op. cit.*, fig. 374.

⁵ *Ibid.*, fig. 358.

⁶ *Ibid.*

⁷ *Ibid.*, figs. 328, 329 and 348.

Ivory female deity

Recently a small ivory statue has been acquired through gift by the Prince of Wales Museum, Bombay.¹ It shows a female deity seated in *lalitāsana* on a double-lotus pedestal (Pl. 98). Both of her hands, one leg and one foot are damaged. She has a round face, charming eyes and mouth beaming with a smile, part of her face and nose are slightly damaged. She is wearing a *dhotī* and four-folded *duputtā* whose folds are prominently seen over her breasts. The back view clearly shows a loose end of the *duputtā* flying near her left hand (Pl. 99). Folds of the *dhotī* are clearly seen and are marked by double lines. Her jewellery includes elaborate fillet, ear-rings, necklaces, arm-bands, broad belt with hanging tassels and anklets.

Her facial features—roundish face, lotus-petalled eyes and thick lips; and jewellery—round *kundals* with beaded designs, broad collar ornaments, necklace passing over breasts, broad and elaborate belts and clothes having folds marked by double lines, can be compared with the stone statue of Ganga in the Varendra Research Museum, Rajshahi² and that of headless Tara at the National Museum, New Delhi.³ Thus, the statue can be dated to the 12th century A.D. and was probably made in Eastern India which has always been famous for its ivory carvings.

Conclusion

Available finds make it clear that during the early mediaeval period Orissa became an important centre of ivory carving. Throne legs, variously shaped, were the favourite item produced by these carvers. Ivory was also used for embellishing furniture—a practice that continues to this day. However, not many figures carved in the round have been found as small ivory items of utility were in much greater demand.

The ivories of this period demonstrate a clear departure from the ideals of the classical age in their devotion to details at the expense of expression; rigidity replaces inspiration; and technical competence is lavished on imparting a metallic touch to the products which lack warmth. Over-embellishment is at once the strength and weakness of these creations.

With the coming of the Muslims, who were iconoclasts, the use of ivory was restricted to the production of fans, *kalamdāns* (ink and pen-stands), back scratchers, *hugga-munāls* and other such items of utility, with the result that ivory carving lost the vitality and vigour of earlier days.

¹ I am grateful to Dr. Pratapaditya Pal, who not only drew my attention to this object, but supplied good photographs also.

² H. Zimmer, *op. cit.*, II, pl. 385.

³ Sherman E. Lee, *Ancient Sculpture from India*, pl. 107 (N. M. Accession no. 49.153).

Mediaeval Ivory and Bone Carvings

Historical background

The conquest of the northern India by the Muslims in c. 1192 A.D. and subsequent accession to the throne of Delhi by Qutub-ud-din Aibak in 1206 A.D. not only heralded new changes in social, administrative and political set up but also set forth new concepts in the field of arts. After the so-called Slave dynasty, the Khilji empire rose and fell during the brief period of twenty years (1300-1320 A. D.). The Tughlaqs, who succeeded the Khiljis, made an attempt not only to revive the empire but also to exercise an effective sovereignty over it. But the task proved beyond their powers. The empire of Muhammad bin Tughlaq broke up within a decade of his accession (1325 A. D.), and before another decade was over, the Turkish empire passed away for ever. India once more presented the spectacle of being divided into a congeries of states, both big and small.

Among the states that arose out of the ruins of the Sultanate empire, six may be regarded as really very powerful. Three of these, namely the Bahmani kingdom in the Deccan, Gujarat in the west, and Bengal in the east were ruled by the Muslims, while their rivals and neighbours, namely, Vijayanagara in South India, Mewar in Rajasthan and Orissa, along the eastern coast, were ruled by Hindus.

The political disintegration and lack of a central authority were mainly responsible for the two great calamities that befell India during this period in the shape of foreign invasions. The first was the invasion of Timur and the other was the visit of Portuguese fleet under Vasco da Gama. Both had far reaching consequences for India. In fact, Timur and Vasco da Gama were in some way or the other instrumental in establishing the supremacy, respectively, of the Mughals and the British in India.

The Mughals established a stable and durable empire in the second half of the sixteenth century. The period of Akbar, Jahangir and Shahjahan was one of the most prosperous time of the Indian history. However, from the time of Aurangzeb, the disintegration started and by 1700 A. D., the once great Mughal empire, was a tattering spectacle, ultimately usurped by the Britishers, who first came as businessmen and then became rulers.

The contemporary Muslim chronicles form the most important source of our information and are very valuable in many respects. However, a serious drawback of all the historical writers of the period is that their vision seldom extended beyond the court, the capital, the rulers and the aristocracy. They hardly ever noticed the people at large or gave any information about their lives and activities, social manners, customs and economic conditions, etc. However, we will study the art of ivory carving as it developed during the period under review and will try to analyse the causes which led to many changes in the ivory products.

Availability of the raw-material

Rulers of mediaeval India maintained large armies comprising of several elephant battalions.¹ These elephants were pruned from time to time and were an important source of ivory supply. Besides these elephants, the jungles of Mysore, Kerala, Assam, Orissa and Himalayan Tarai were teeming with elephant-herds. During the Mughal period existence of elephants in good number in northern and central India has also been reported.² In the hilly country south of the Ganga and the Jamuna elephants were a common sight.³

It appears that another source from where elephant's tusks were obtained during the late Mughal period is Ethiopia.⁴ Later, elephant tusks were also imported from England which in its turn used to get the supply from Africa.⁵ Thus, it would appear that the raw material was easily available leading to the manufacture of variety of objects, some of which were produced on mass scale.

Technical know-how

The political disintegration of the country, though led to so many evils, was also productive of some good results. The most important outcome was the development of provincial styles which increased both the variety and the productivity in art and architecture. The art of ivory carving was also affected. Another feature of this period was the *kārkhanās* (workshops), which were established at places, specially at the capital. These were for both—the emperor and the artisans. During the rule of Firoz Shah Tughlak alone we know of 36 *kārkhanās*.⁶

It would, thus, appear that the practice during this period was that of group-product and not that of individual products, i.e. an ivory figure would have passed through many hands before reaching the market.

Colouring of ivory products also seems to have gained popularity during this period. Due to the increasing contacts with the outside world there seems to have been overall improvement in the technical know-how of the artists. Further there were frequent movements of artists from one court to another thereby adding to each other's knowledge. The stress, however, shifted from expression of feeling to the minuteness of the carvings.

The technical competence of the carvers of this period is well attested by Emperor Jahangir's remark in his memoirs :⁷

"One of the royal slaves who was serving in the seal cutting departments prepared and placed before me a design such as I had never seen or heard before. As it is exceedingly strange a detailed description of it is given. In the shell of a filbert four compartments had been carved out of ivory. The first compartment was one of wrestlers..... In the second a throne had been made above with a *shāmiyānā* was depicted, and a man of wealth was seated on the throne with one leg placed over the other..... In the third compartment is a company of rope-dancers..... In the fourth compartment there is a tree, below which the figure of the revered (*hazarat*) Jesus is shown. One person has placed his head at Jesus feet, and an old man is conversing with Jesus and four others are standing by."⁸

¹ (i) Domingo Paes (A. D. 1520) in R. Sewell, *A Forgotten Empire*, p. 226

(ii) Ishwari Prasad, *A Short History of Muslim Rule in India*, p. 339.

² S. M. Edwards and H. L. O. Garrett, *Mughal Rule in India*, p. 281.

³ S. S. Kulshreshtha, *The Development of Trade and Industry Under the Mughals (1526 to 1707 A. D.)*, pp. 106-107.

⁴ D. Pant, *The Commercial Policy of the Mughals*, p. 241.

⁵ *Ibid.*, p. 207.

⁶ I. H. Qureshi, *The Administration of the Sultanate of Delhi*, pp. 69-71.

⁷ *Jahangir's Memoirs*, Rogers and Beveridge's translation, 1, p. 200.

⁸ Asok Kumar Das, *Mughal Painting During Jahangir's Time* (Thesis under print); Dr. Das has informed that a similar ivory is in British Museum Collection (No. 1959, 7-21, 1).

As the theme depicted included Jesus, in all likelihood it must have been work of a Goa artist.¹ The minute details and natural treatment described above certainly show the high water mark achieved by the ivory carvers of the Jahangir period.

MEDIAEVAL BONE AND IVORY CARVINGS

Plaque showing Dampati

The Cleveland Museum of Art, Cleveland has an ivory plaque showing a *dampati* or couple² in amorous pose (Pl. 100). Such plaques with perforated carvings, almost as good as in round, once decorated the royal cot's head, perhaps to help arouse the passion of the kings. Here we notice that the man is tenderly touching the woman's chin by his one hand while the other is kept on her shoulder. She seems to be shy and he is trying to raise her head. Their graceful limbs have been given an angular treatment which is noticed in the 13th century Orissan carvings.

Throne legs from Orissa

The art of Orissan ivory throne legs, already noticed in the earlier chapter, seems to have reached its zenith during the 16th-17th centuries as a number of examples of this period have been noticed in various collections in India and abroad.

The Asutosh Museum of Indian Art, Calcutta University, Calcutta has such a carving in its collection.³ The slightly curved leg depicts an animated hunting scene. The hunter is mounted on a rearing charger, fully caparisoned, even the minutest details of the harness being carefully depicted. The hunter, wearing a turban, full-sleeved-shirt, trousers and boots; is equipped with a dagger stuck to the waist, a sword, a bow and two spears, each of which impaled a deer. Below the rearing horseman is depicted a forest scene with a group of hunters engaged in hunting wild animals. On the left side of the horseman, behind the right hand leg of the horse, is kneeling a turbaned hunter. In between the raised fore-legs of the horse is represented an animated hunting scene. A hunter killing a stag, a doe trailing behind, a hunting dog, a huntress ready to strike, a wild bear, etc. complete the scene. The artist has faithfully represented the horse which dominates the scene. On the basis of its workmanship and figures, etc., the leg has been assigned a late 16th-early 17th century date.

Indian Museum, Calcutta also has a similar throne leg.⁴ The trapping of the horse and the dress and equipment of the rider are almost the same, except that the latter has no beard and the treatment of the body is somewhat stiff and formalised. The base is an exact replica of the Asutosh Museum ivory throne leg. A comparison of the two throne legs shows that though both belong to the same tradition, and probably the same piece of furniture, the Indian Museum ivory is stiffer in composition and of inferior workmanship. It can be assigned to early 17th century Orissa.

Two ivory throne legs in the collection of late Sri Narendra Singh Singhi of Calcutta⁵ perhaps belong to the same group as the two legs in the collection of the Asutosh Museum and the Indian Museum.⁶ The hunter sporting a fierce moustache and wearing a turban, half-sleeved shirt and full boots is equipped with a bow, a quiver and swords. He is riding a well caparisoned horse, under whose fore legs a lively hunting scene is witnessed. A second hunter is thrusting his spear towards a galloping buck. A couple of wild boars also appear. The pedestal is lotus shaped.

¹ Ajit Ghose, "Some old Indian ivories", *Rupam*, No. 32, pp. 126-127.

² Similar plaques are known from Los Angeles County Museum of Art, Los Angeles (Acc. No. 473.85); The Metropolitan Museum of Art, New York (Acc. No. 64.299); and Jack Polak Collection, Amsterdam. Information obtained from personal correspondence.

³ Motichandra, p. 56, pls. 14a, 14b and 15a.

⁴ *5000 Jahre Kunst aus Indien*, p. 413; cat. no. 325, pls. on page 413.

⁵ Motichandra, "Some old ivories from Orissa", *Pushpanjali*, I, No. 1, pp. 37-39.

⁶ The possibility that these four belong to the same group cannot be completely ruled out. All four are located in Calcutta.

The only complete set of four throne legs from Orissa is known from the collection of the National Museum, New Delhi.¹ Quite well preserved these show the *gajasimha* motif and the hunting scenes. The hind as well as the fore-legs are that of a lion with prominent paws. The head, however, is that of an elephant. Three of the throne legs show a dancing female figure between the hind legs,² while the fourth one shows a woman playing on drum.³ Hunting scenes with little variations are shown on the other side. One of these shows a hunter piercing his lance into a boar.⁴ A dog is also attacking the boar. Another one shows an equestrian figure.⁵ The other two also show similar carvings. The round base has been carved separately and attached to each one of them. The set can be assigned to late 16th-early 17th century A. D. Orissa on stylistic grounds.

Ivory throne legs from Orissa are also known from the Victoria and Albert Museum⁶ and British Museum,⁷ London; Museum of Indian Art, Berlin;⁸ Seattle Art Museum, Seattle,⁹ and Los Angeles County Museum of Art, Los Angeles.¹⁰ All these show *gaja-vyala* or *gajasimha* motif and hunting scenes and measure 30 to 40 cms in height, depending, perhaps on the availability of the material.

The Indian Museum throne leg was wrongly assigned to Madura on the basis of its similarities to Vijayanagara art.¹¹ However, it is interesting to note in this connection that the throne legs of the royal *simhāsan* and that of divine thrones of the thirteenth century Orissan origin are similar.¹² Further evidence of the existence of a flourishing school of ivory throne legs in Orissa is provided by an inscription on the Jagannatha temple at Puri¹³ recording the gift of eight ivory thrones to the deity by king Purushottamdeva (1467-1497). It is a matter of any body's guess that all these thrones must have had legs similar to the ones discussed here, a fact corroborated by the stone sculptures as well.¹⁴

Radha and Krishna from Orissa

The Orissan artists were carving figures in round as well. The National Museum, New Delhi, has a pair of ivory carvings from Orissa showing Radha and Krishna.¹⁵ Krishna (Pl. 101) stands in *tribhanga* on a high circular base in the attitude of flute playing (although the flute is missing). He is wearing an *yajnopavīta* and *vaijayantīmālā* and his face is lit with a gentle smile. His crown, necklaces, bangles, armlets and waist-band, etc. are meticulously carved. His hands and feet have a tenderness which is unsurpassed by any other carving. His hair are tied in a *remi* form, also seen in the contemporary palm leaves.¹⁶

Radha also stands on a circular pedestal having an inverted lotus pattern, as in the case of the Krishna figure, with her head slightly inclined towards her left.¹⁷ She is wearing profuse jewellery, a number of necklaces including one *guliband*, bangles, armlets, big ear-tops, waist-band with tinkling bells, anklets, rings, etc. Like the Krishna figure, she is also wearing a waist band having many trinkets. Her long and thick garland of flowers is unfortunately damaged. Her features are also treated similarly to those of Krishna-arched eye-brows, sharp nose and smiling face. Her hands are in dancing pose, perhaps dancing to the tune of Krishna's flute.

On the stylistic grounds and similarity of features with the late 17th century manuscript illustrations from Orissa, the two figures can be safely assigned a similar date.

¹ V. P. Dwivedi, "Ivoires Indiens : un ensemble de pieds de trône, provenant de l'Orissa et conservés au Musée National de New Delhi," *Arts Asiatiques*, XVI, pp. 59-74.

² *Ibid.*, pls. I(a), III(a) and IV(a).

³ *Ibid.*, II(a).

⁴ *Ibid.*, Pl. 1(b).

⁵ *Ibid.*, IV(b).

⁶ Neg. No. F. G. 293.

⁷ Personal Correspondence with Douglas Barrett and W. Zwalf.

⁸ Personal communication with Dr. H. Hartal.

⁹ 1966 Accession, Neg. No. In. 10.7

¹⁰ Museum No. 70.2.

¹¹ Motichandra, pp. 58-59.

¹² V. P. Dwivedi, *op. cit.*, (1967), pls. V and VI.

¹³ R. Mitra, *The Antiquities of Orissa*, II, p. 165.

¹⁴ National Museum sculptures showing king Narasimha-deva performing *pūjā*; see : V. P. Dwivedi, *op. cit.*, (1967), pls. V and VI.

¹⁵ V. P. Dwivedi, "A pair of ivory figures from Orissa", *Oriental Art*, XIII, No. 6 (Summer, 1967), pp. 94-97, pls. 1a, b, c and 3a, b.

¹⁶ *Ibid.*, pl. 2.

¹⁷ *Ibid.*, figs. 3a-b.

Ivory Ganeśa from Orissa

The Metropolitan Museum, New York has a splendid example of Orissa workmanship in the form of Ganeśa. It must have been a fascinating experience for the carver to fashion the elephant-headed God out of the elephant tusk itself. The four-armed deity¹ is seated at ease on a circular lotus pedestal. He has only one tusk (*ek-danta*), small elephantine eyes, large ears carved realistically showing veins, and a *jatā-mukuta*² with three plaits at back (Pls. 102 and 103). His upper two hands hold axe or club and noose. His trunk is turned to his left trying to pick-up *modak* from the pot held in his lower left hand. The lower right hand holds his broken tusk.³ He is wearing a necklace of three strands having a *vyāghranakha* as pendent, continuation of a practice traceable from the Gupta period. The *vyāghranakha* assumes greater significance because of the fact that a *vyāghra* is an arched enemy of the elephant. His back is also equally meticulously carved, specially the *dhori* having floral bands and tinkling bell waist-band.⁴ Seeing the minute and realistic carving, the image can be safely assigned to 16th century Orissa, and shows the high water mark reached by the Orissan ivory carvers of this period.

Dantagrīha or room of ivory

The art of ivory carving, in common with other arts, seems to have received considerable patronage in the Vijayanagara empire. Domingo Paes (1522 A. D.), who personally visited Vijayanagar, has left an interesting reference to an ivory room of the royal palace.⁵ "In this house there is a room with pillars of carved stone, this room is all of ivory as well the chamber as the walls, from top to bottom, and the pillars of the cross timbers at the top had roses and flowers of lotuses all of ivory and all well executed, so that there could not be better, it is so rich and beautiful that you would hardly find anywhere another such." As walls cannot be of ivory, perhaps profuse inlay of ivory in wood is referred.

Ivory bedstead inlaid with gold

Fernao Numiz (c. 1535 A. D.), another traveller who visited Vijayanagar, mentioned "ivory bedstead inlaid with gold"⁶ for king's son or daughter. Although it is not clear from the description, it can be assumed that the wooden royal beds were profusely inlaid with ivory and gold. Examples showing ivory inlaid with gold has not been seen so far.

Ivory casket from Vijayanagara

The Prince of Wales Museum, Bombay has a small ivory casket⁷ which is most noteworthy for its minute details. The bottom of the rectangular casket is painted green and has four stepped legs, one of which is broken. The receptacle is divided into arched niches, four in front and at the back and three at the sides with delicate columns decorated with flowers and leaves at the top. Except for the back of the box, each niche contains female dancers in pairs. The arched niches at the back contain highly stylised lions. The top of the lid is bordered on all four sides with rosette bands. The rest of the space is divided into three registers, the top register being again divided into ten cartouches, the central and bottom registers into eight. In the top register, beginning from the left, appear the ten *avatāras* of Viṣṇu. The central register shows Veṅugopāla flanked by *gopis*. Rama and Sita are also shown.

A comparison of the figures carved on the casket with the figures of dancing girls on the platform from Vijayanagara leaves hardly any doubt that the casket belongs to the same region and period, i. e. middle of the 16th cent. A. D.

¹ Acc. No. 64.102; ht. 18.6 cms.

² Similar *Jatā-mukuta* can be seen in Kliching Ganeśa; See J. N. Banerjee, *The Development of Hindu Iconography*, Frontispiece and pl. XV, 2.

³ For similar treatment see Kliching Ganeśa referred to above.

⁴ Similar bells were noticed in Radha and Krishna figures also discussed earlier, p. 119.

⁵ Robert Sewell, *A Forgotten Empire*, p. 274.

⁶ *Ibid.*, p. 352.

⁷ Molichandra, p. 61; Museum Acc. No. 59.8; ht. 5.5 cms, width 8.5 cms.

Ivory panel showing female dancers

The Victoria and Albert Museum, London has a fascinating group of dancing women carved out on a panel¹ which was most probably fitted to a box, as shown by the nail-marks at the two ends. It shows four female dancers in different poses, two of them are dancing together. Rectangular in shape, it has a beaded border around. The dress and jewellery as well as the female forms, make it clear that it is a seventeenth century Kerala work.

Back arch of a Simhāsana from Gujarat

The Prince of Wales Museum, Bombay² has a decorative ivory *pīṣṭha* of a *simhāsana* measuring 56×26 cms (Pl. 104). It is symmetrically decorated on both sides of the dividing central line and the ornamentation is veneered on a specially prepared ground of mica. The decoration as it starts from the outer edge has (i) a thick circular rope motif; (2) a broad band or floral meander; (3) a double thin line defining the motif painted red and (4) a delicate *patra torana* or a palmettee confining the border from inside. The background is arabesque within which Krishna is depicted tending cows as a cowherd. He is wearing a *dhoti*, *dupattā* and *mukuta* which is three pointed. Out of the three cows on either side two are accompanied by their calves. All the cows are looking upwards. The perforated scroll work, specially the border, reminds us of the *jālī* work in stone seen in various *masjids* of Gujarat.³ The Krishna and cows figures also compare favourably with Gujarati painting of 17th century,⁴ a date to which this work can be safely assigned.

Gajalakshmi from Karnataka

Karnataka (Mysore) has been famous for its continued ivory carvings since times immemorial. The Prince of Wales Museum, Bombay has a figure of Gajalakshmi⁵ carved almost in round. The goddess is wearing a *mukuta*, necklaces, a breast-band and *sārī* with one end tucked behind and secured with a waistband seated in *padmāsana* on an expanded lotus, the petals of which cover the lunate-shaped base. Her right hand is broken and in the left hand she holds a lotus. On either side an elephant pouring water from a pitcher held in its trunk. Stylistically it can be assigned to c. 17th century Karnataka.

The makara-head palanquin rod-end

The Prince of Wales Museum, Bombay has yet another 17th century ivory from Kerala region—a grotesque form *makara-head*,⁶ which in all probability served as a decoration to a palanquin rod.⁷ The nose is beaked and the wide open mouth with red lacquered gums, bare fangs and red lolling tongue increase the effect of grotesqueness.

Kāliyāmardana Krishna

The Prince of Wales Museum, Bombay has a small carving showing a Kāliyāmardana Krishna,⁸ dancing over the Kāliyā in a frame. The treatment of the volumes of the figure of Krishna within the framework of the *mandala* is quite noteworthy. He is flanked by static female attendant figures, one to his left being quite large as compared to the one on his right. It is a South Indian, perhaps Tamil Nadu, work of 17th century A. D. Many similar pieces are known from the region in bronze, which was more popular medium.

Statue of a Nayak King

A standing figure of a Nayak king⁹ on a high pedestal, having traces of colour on his headdress and pedestal, forms part of the collection of the Prince of Wales Museum of Western India, Bombay.

¹ Ajit Ghose, "Some old Indian ivories", *Rupam*, No. 32, p. 127-128, fig. J.

² Shridhar Andhare, "Notes on some recent acquisitions", *Bulletin of the Prince of Wales Museum of Western India*, No. 11, pp. 64-65, figs. 61-62.

³ Ziauddin A. Desai, *Mosques of India*, pp. 41-42 and plates.

⁴ Stuart Cary Welch and Milo C. Beach, *Gods, thrones*

and Peacocks, fig. 15.

⁵ Motichandra, p. 63.

⁶ *Ibid.*, pl. 17a; Museum No. 60.5; ht. 12.4 cms.

⁷ Similar decoration is known in brass from the Rani Rajwade collection, National Museum, New Delhi.

⁸ *Desk Diary*, 1968, Tata Sons Pvt. Ltd., pl. 13.

⁹ *Ibid.*, pl. 12

The upper part of his body is bare and the lower is covered with a *būti*-patterned *dhōṭī*, fastened with a broad jewelled belt. He is wearing a plain peculiar headdress and several necklaces in his neck, wristlets in his hands and anklets in his feet. One of his hand is damaged and the other was holding a sword of which only the hilt remains. His facial features—arched eye-brows, lotus petal shaped eyes, full mouth, and jewellery, make it evident that he is a royal family member of the Nayak period, i.e. 17th century A. D. Traces of colour shows that originally it was fully coloured.

A Mughal Plaque

The Mughal rulers, who were iconoclasts, patronised intricate floral patterned works in stone as well as in ivory. The Prince of Wales Museum, Bombay has a plaque showing a flower vase motif.¹ The exquisite delicacy of the arabesque design of the tree, the foliage and the birds is almost like a carving in marble, which was a favourite medium of this period, mid-17th century A. D. Two horse riders are seen in the upper corners. Traces of colour are seen at places.

Three Mughal figures

The National Museum, New Delhi, has a figure of an old man holding stick in his hand wearing a quilted coat coming below his knee.² The coat has some pattern over it and a shield and sword is hung at his back. His head is covered with a peculiar Muslim cap. He is accompanied by two female attendants figures clad in *jāmāh*. The facial features, specially the drooping moustache, and the dress of the three figures make it apparent that these were carved at Delhi in 17th century A. D.

Panels from a Mughal box

The Cleveland Museum of Art, Cleveland has several ivory carved panels which once must have formed a box (Pl. 106). One of the panel shows a king seated against cushion, smoking *hugga* and enjoying music played by three musicians. A female *chauri* bearer and two armed men in attendance. Next panel almost repeats the same with little variations. Here the king is attended by a man holding a palm-fan and the three musicians happen to be females, each with a typical hair-bun, noticed in late Mughal painting. Third panel shows five armed figures standing in a niche facing left. Two other smaller panels show that armed figure each. Two even more smaller panels show an armed man each. All these panels combined together must have embellished a wooden box, as is apparent from the nail marks. The *pagree* and the dress of the king and other male figures and the hair-style of the female figures remind one of the late Mughal paintings of c. 1700 A. D.

Mughal ivory powder-horn

A private collection in U. S. A. has a splendid example of ivory powder horn³ which could have once belonged to some Mughal noble. This slightly curved example shows *Shikārgah* or hunting scenes. The animal figures are carved in low relief and show deer, lion, tiger, hare, buffalo and birds. One of the ends is carved in the shape of a cow's head. A band showing birds in his centre divide the horn in two parts and marks the opening of the piece. On the basis of the similar depiction of animals and birds in the Mughal paintings and textiles,⁴ it can be assigned an early 17th century date.

Lion-headed dagger handle

The Maharaja of Jaipur Museum, Jaipur has several examples of ivory handles of the Mughal period, one of which shows a lion's head.⁵ It is carved out of walrus ivory, which was highly valued in the Mughal period. Known as *machhali-kā-dānt* or fish tooth it has a dirty yellow colour whose texture looks like as if crystallized into patches. The advantages of having walrus dagger or sword handles were its greater strength, finer and smoothen surface and greater resistance (less liability to slip in the hand) than in the case with ivory.⁶

¹ *Desk Diary*, 1968, pl. 14.

² Beihoff, p. 76. The book's attribution of these figures to Mysore is quite untenable on stylistic grounds.

³ Stuart Cary Welch, *op. cit.*, pl. 39; size 18.6 X 3.9 cms.

⁴ *Ibid.*, pl. 41.

⁵ *Ibid.*, pl. 67.

⁶ George Watt, *Indian Art at Delhi*, 1903, p. 173.

The present example has a vigorous lion head, with open mouth which could be dated to 17th century Lahore.¹

Ivory inlaid matchlock-butt

Mughal rulers had a great fascination for decorating even their lathel weapons. There are several examples showing ivory inlaid butts.² The Maharaja Jaipur Museum, Jaipur has a Mughal period matchlock which has a fine teak-wood butt inlaid with ivory.³ It shows typical floral and scroll pattern of the Mughal period and was manufactured at Manpur, Rajasthan in the mid-17th century.

Ivory Christ figures from Goa

The Portuguese occupation of Goa brought changes in its art. The Goanese artist of 16th and 17th centuries emulated the Christian works of art brought to that part of the country and carved them in ivory and wood.

The National Museum, New Delhi has two splendid examples of Goanese Christ figures in its collections. One of them shows him before crucifixion and the other after crucifixion.

The first one shows Christ with only a loin cloth tied with a rope, the upper part of the body being bare.⁴ The carver has carved the muscles and veins with a rare realism, specially his back shows even the ribs. His bearded face with half closed Chinese like eyes reflects the forgiveness which he preached to masses and the faint smile give him almost a divine character.⁵ One of his hands rests on his chest and the other one is held on the loin-cloth. His right foot covers the left one. It can be assigned to 16th century A. D. Goa.

The other ivory shows Christ after crucifixion apparent from the nail marks on his outstretched hands and feet. His bearded face droops to his right and eyes are closed showing, perhaps, him unconscious. He is wearing a crown of thorns. The only cloth he has on his body is a loin-cloth held with a rope. The carver has taken pains to show his bodily contours including ribs, veins, etc., realistically, a speciality of Goanese carvers of this period. The two arms, carved separately, are attached to the body. This, too, can be assigned to 16th century A. D. on stylistic grounds.

The Prince of Wales Museum, Bombay, also has several Goanese ivory objects in its collection, the most outstanding being the crucifixion figure.⁶ Similar to the one at the National Museum already described, it shows bearded figure of the Christ with outstretched hands. The hands and feet have nailmarks. He is wearing a loin-cloth fastened with a string. The upper part of the body is bare. The two arms are carved separately and attached to the body. The realistic treatment of the body showing the veins of the arms and legs and ribs at the back is something which is not seen in other Indian ivories. The fact is that the figure reproduce the Indian linear rhythmic grace in a theme which had so far been treated so as to arouse horror. It is datable to late sixteenth century on the basis of similar wooden figures in Goanese churches.

St. Francis of Assisi, Goa

The Prince of Wales Museum, Bombay has an ivory figure showing St. Francis of Assisi seated in pensive mood.⁷ While one of his hands is holding a bag resting on his lap, the other is kept on his face. His ovaloid face, with closed eyes, also reflects his pensive mood. He is wearing a check-patterned coat covering up to knees. It appears that the folk terracotta work and wood carvings have imbued this sculpture with a rustic charm. This, too, is datable to late 16th century A. D.

¹ Stuart Cary Welch, *op. cit.*, p. 172.

² Hermann Goetz, *The Art and Architecture of Bharat State*, fig. 71.

³ Stuart Cary Welch, *op. cit.*, pl. 71.

⁴ V. P. Dwivedi, "Christ in Indian art", *Spiritual India*,

No. 3 (July, 1, 1973), pp. 23-24.

⁵ V. P. Dwivedi, "The pale grace of Indian ivories", *Orientation*, 7, No. 3, p. 47.

⁶ *Desk Diary*, 1968, pl. 20.

⁷ *Ibid.*, pl. 19.

Head of Mary, Goa

The head of Mary,¹ carved in round, shows her in a introvert mood. Her head is covered with a cloth tied tightly and large attractive eyes are down cast. The work can be assigned to 16th century Goa.

A standing Saint, Goa

The Prince of Wales Museum, Bombay has yet another Christian ivory figure showing a standing saint² echoing the baroque workmanship of European Churches. The saint, wrongly identified as Christ by Moti Chandra,³ has his hair parted in the centre and the tresses flowing on his shoulders. His drapery, a long robe covering even the feet and the flowing overcoat, is full of folds. The ivory figure was once coloured, traces of which are still visible at places. Unfortunately, his hands are damaged and lost. A hole near the wrist indicates that the hands were perhaps carved and attached separately. His facial features and dress indicate a 16th century date.

Ivory inlaid doors

During this period ivory was also used for inlaying of doors. The inlaid doorways of the Ashra Mahal at Bijapur were made in 1580 A. D.⁴ Another example of 1630 A. D. workmanship is available at Amber Palace,⁵ near Jaipur. It seems, however, that such examples, because of the cost involved, were limited to the royalty alone.

A Deccani ivory plaque

The Prince of Wales Museum, Bombay has an ivory plaque⁶ which shows standing lovers in a cartouche. The tall male figure, wearing a Deccani turban, *jāmāh* covering up to feet, is trying to embrace his beloved wearing *dhoti* and *dupattā* and having a peculiar hair style. Strange though it may seem, she is carrying a sword on her shoulder held in her right hand. Facial types of these figures—receding forehead, sharp nose and head-dress, point to its Deccani origin of 17th century.

Conclusion

The foregoing descriptions make it clear that in certain parts of the country, for example Orissa and Vijayanagar (parts of modern Andhra and Karnataka) the ivory carving continued the ancient traditions. However, even in these places by 16th-17th centuries their works lose the individuality and are reduced to mechanical products devoid of warmth. It does not mean that they did not have any charm. The greatest contribution of the ivory carvers of Orissa, as late as the 17th century, is that in spite of the lack of patronage and the changing taste they continued to keep the ancient tradition very much alive, although the craft had changed its face completely in the northern India. In South India, however, the age-old traditions in the carving continued uninterrupted and it was used in such profusion in the royal household that a full room was decorated with ivory. The Pae's description make it clear that the walls, chamber and rafters were all inlaid with ivory. These must have been wooden and were, perhaps, so profusely decorated with ivory that the foreign traveller thought the whole structure to be of ivory.

The Mughal rulers seem to have had ivory-carvers in their regular employ, as is evident from the reference about an ivory carving in Jahangir's memoirs. This carver was working in the seal-cutting department, which will mean that perhaps ivory was used for making royal seals as well. However, because of the religious sanctions, figures in round, specially those of gods and goddesses, were not produced to the extent they were produced earlier. Instead many new items were included in the list of ivory products. Mughals, who were very fond of *hugga* smoking, used ivory for producing *munāls* for individual use. These were, however, shaped like crocodile mouth, reminding one of the ancient tradition of the *makaramukha-praṇāla* mentioned by Bāṇa. Ivory back-scratchers, fans, sword and dagger-handles

¹ *Desk Diary*, 1968 pl. 17, Prince of Wales Museum, Bombay Collection.

² *Ibid.*, pl. 18.

³ *Ibid.*, pl. 18.

⁴ A. K. Coomaraswamy, *The Art and Crafts of India and Ceylon*, p. 176.

⁵ George Watt, *Indian Art at Delhi*, 1903, p. 179.

⁶ *Desk Diary* 1968, pl. 15.

(for this purpose the Mughals preferred walrus ivory than the elephant tusks), chess and *chaupada* pieces were some of the popular items of this period. Ganjifa-cards, made of ivory and kept in ivory boxes, also became a craze during this period. Artist's or calligrapher's ivory pen-cases (*kalamdāns*) were another popular items with the Mughals. Such cases were usually decorated with intricate floral and scroll patterns, which are often found in Mughal marbles as well.

Establishment of the Portuguese colony at Goa in the 16th century A. D. gave another turning point to the Indian ivory carving. From this area came a strange intermingling of oriental and western art. The Indian carvers tried to adapt religious subjects for European use, which did not always yielded interesting results. Such ivories had a ready market in Europe and were hence produced in large numbers. The Goa artists made iconographic innovations as well. The "shepherd Rockery" which depicted a person, usually asleep on top of the statue, with flocks wandering around the centre and base, with another figure reclining inside the base, was such an innovation. Goanese artists made ivory-inlaid furniture as well, which became quite popular in the western markets.

It is also observed from some of the Goanese figures that quite often various limbs of a figure, specially the arms of crucified Christ, were carved separately and then joined together. Earlier most of the figures were carved from a single-piece of ivory, which sometimes limited the height of the products.

Ivory was also used for inlaying doors of the palaces, matchlock-butts, etc. The intricate inlay work showing floral and scroll patterns seems to have been quite popular and suited contemporary taste.

Modern Bone and Ivory Carvings

Historical background

During the period under review the weakening of the Mughal rule at Delhi encouraged the emergence of the independent provincial rulers at Oudh, Bengal and Deccan and also facilitated the rise of Marathas in the Western India. The European powers—Portuguese, English, Dutch and French—lured by the rich commercial prospects of the country, were also trying to establish themselves as trading concerns competing with each other. The East India Company (formed in 1599 A.D. at London), however, emerged supreme from among the foreigners and the pact concluded in the year 1717 with Emperor Farukhsiyar granted it free trade facilities in Bengal, Bihar and Orissa. The Battle of Plassey in 1757 further enhanced the British prestige and virtually gave them the key to their further success in India. Warren Hastings consolidated the gains made by his predecessor Clive and defeated the Mysore rulers to gain suzerainty in Deccan. Lord Wellesley, Hastings, Dalhousie, Cornwallis, William Bentick and other Governor-Generals firmly established the British supremacy in India and led to the establishment of the Empire in 1858 A.D. Certain parts of India, however, continued to be governed by the native rulers—*Rājās*, *Mahārājas* and *Nawabs*. The country attained independence in August 1947.

Availability of the raw material

India's developing contacts with Africa and Europe through the Britishers, provided the carvers with abundance of good quality African ivory and also created a growing demand for finished ivory products in the European market¹. From the African ivory the Indian carvers made their prized products.

Another source of ivory, locally called *machli-kā-dānt*, was Siberia from where mammoth ivory which had laid buried for countless ages in the frost bound drifts of Liakoff and New Siberia was supplied to India through land routes². It is also possible that a fair amount of hippopotamus or "sea horse ivory" and even of the "walrus ivory" was finding its way to India by passing through land routes.

Besides these, the indigenous source, the elephants maintained by the *Mahārājās* and those roaming in jungles, also continued to supply the raw material. Improved means of communications led

¹ George Watt, *Indian Art at Delhi*, 1903, p. 174. He writes, "A large percentage of the Mozambique and Zanzibar ivory finds its way to Bombay and is re-exported to

Europe under what is spoken as the East India trade."
² *Ibid.*, p. 173.

to the establishment of carving centres at such places as Lahore and Ludhiana in Punjab and Pali and Jaipur in Rajasthan, though elephants were not found in these areas. Ofcourse places like Kerala, Mysore, Assam, etc., where ivory was locally available, continued to have flourishing ivory carving centres.¹

The growing contacts with European world not only increased the supply of the raw material from other parts of the British Empire. Asia as well as Africa, but also brought forth new ideas thereby economising the use of raw material. Even the smallest bits of ivory, including the dust produced by sawing², was put to use. Production of buttons, cuff-links and billiard balls, etc. helped the carvers to utilise even the smallest parts of the tusks³. Demand of ivory inlaid wooden furniture created new opportunities. This again gave an extra facility to the carvers to make use of even thin shavings. Thus, we notice that during this period not only the raw material was available in greater quantity but it was being put to maximum use.

Technical know-how

Opening of new vistas with the coming of the Europeans gave new dimensions to Indian ivory carvers' technical know-how. He got chances to see European, Chinese and other such products which influenced his working⁴. Increase in all round knowledge brought use of better and finer instruments although the basic tools remained the same. Use of lathe, however, seems to have been on increase⁵, specially for the round powder-boxes, vermilion-boxes, handles, etc.

Yet another development was the establishment of large shops and *kārkhānās* owned by the business class (and not entirely by the ruling class or guilds as was the case earlier). George Watt has referred to several such establishments at Delhi, Murshidabad⁶, etc. However, large ruling families continued to employ their own ivory carvers.⁷

Holding of several exhibitions at various places⁸ gave the artists opportunities to see works of different Indian regions as well as those of other countries which resulted in increase in their technical know-how.

Yet another development during this period was the abundant availability of different kinds of raw material—Indian, African, Siberian and Alaskan, etc.—which gave greater freedom of action to the artists.⁹ The artists could choose the right type of ivory suited for the job. For example, in Hoshiarpur the hair-like thin lines of inlaid work was invariably done in the bluish white African ivory procured from Bombay port.

The Ivory Carver

Watt's statements that "the absence of a recognised caste of ivory carvers is one of the strongest points in favour of the contention that the industry as it exists at present, is a comparatively modern one¹⁰" is quite untenable in view of our earlier descriptions of ivory carvings right from the Harappan period, ancient literature and inscriptions spoke of guilds of ivory carvers.¹¹ Artist in ancient India was free to work in different mediums and that is why the ivory carvers came from different castes—

¹ Ivory dust was used for polishing and for medicinal purposes. Information : Bhagat Bhim Sen, New Delhi.

² Sipra Nandi, "Art of ivory in Murshidabad," *Indian Museum Bulletin*, IV, No. 1, p. 96.

³ George Watt, *op. cit.*, pl. 42. It shows landscape and floral carvings on the back of 2 ivory brush frames and handles which clearly show Chinese and European influences.

⁴ Sipra Nandi, *op. cit.*, p. 96.

⁵ George Watt, *op. cit.*, p. 193.

⁶ *Ibid.*, p. 178, "The Maharaja of Banaras have always retained court carvers who have made fairly creditable work".

⁷ Calcutta Exhibition, 1864; Punjab Exhibition, 1881-82; Calcutta Exhibition, 1883; and finally Delhi Durbar Exhibition 1902-3.

⁸ Ivory was also available from Ceylon, Burma and other Asian countries.

⁹ George Watt, *op. cit.*, p. 176.

¹⁰ Please see Chapter II, pp 16, 18 and 21.

Brahmins¹, carpenters², *Bhāskars*³, *Gudigars*⁴, etc., Muhammadan ivory carvers were also known.⁵ Infact, quite often an artist was found working in more than one medium.

The fact that one of the ivory carvers of Murshidabad court toured around other cities and was honoured at Jaipur court with valuable presents and a purse⁶ shows that the profession had gained a social recognition by the 18th century. Even more interesting is the fact that when this carver, Tulsī Kārīgar, came back to Murshidabad after 17 years of absence, he was not only given a beautiful house in the Mahajantuli locality of the city but was paid salary for his absence as well. Allotment of house in Mahajantuli again shows the recognition attained by an ivory carver in the society.

Watt, however, brings out a startling fact when he states⁷ that majority of the ivory carvers working in Lala Fakir Chanda Raghunatha Dass's shop in c. 1900 were Brahmins by caste. How the Brahmins, the priestly Hindu caste, came to this profession, remains a matter of investigation but it certainly points out that the profession had received a social recognition and even the high caste Brahmins did not hesitate to take up the work of ivory carving.

Like all other arts, the ivory carving has also been a hereditary art and the son of the carvers began to be instructed when little more than ten years of age.⁸

MODERN EXAMPLES OF BONE AND IVORY CARVINGS

Ivory Inlaid doors.

The doors of the *Bari Mahal* are overlaid with ivory that has been coloured with lac etchings. These were produced in 1711 A.D.⁹ Ivory inlaid doors were noticed earlier as well.¹⁰

The Darshani door at the Golden Temple, Amritsar¹¹ is inlaid with ivory, much of which is stained in green and red. These doors probably date from Maharaja Ranjit Singh's restoration of the temple in 1802 A.D.

The Gaj Mandir at Bikaner Fort Palace has a sandalwood door inlaid with ivory showing intricate floral and geometric designs.¹² These doors were carved around 1825. Such doors, however, were limited either to rich people or to temples, gurdwaras, etc.

Dampati figures from Mysore.

The National Museum, New Delhi has two ivory figures, standing couple from Mysore¹³ in its ivory collection. The man with his typical *pagadi* and jewellery, stands at ease facing front. He is wearing a *dhoti* only, which is further strengthened by a *patkā*, the upper part of the body being bare in the South Indian fashion. His jewellery includes several necklaces, armlets, wristlets, etc. and he is wearing shoes. He stands on an octagonal pedestal. Folds of his *dhoti*, *patkā* and *pagadi* are realistically rendered. The female figure (Pl. 105) also stands facing front with a parrot perched on her bent left hand. Her other hand hangs by her side. She is wearing a *sari* held by a girdle, blouse and *dupattā*. Her jewellery include elaborate earrings, head ornament, several necklaces, armlets and wristlets. Lady's hair have been painted black.

Another similar couple, which is coloured in bright red, black and golden colours, also exists in the National Museum collection.¹⁴ Their facial type and dress indicate a 18th century date.

¹ George Watt, *op. cit.*, p. 176.

² *Ibid.*

³ Sipra Nandi, *op. cit.*, p. 94-95.

⁴ George Watt, *op. cit.*, p. 143.

⁵ *Ibid.*, p. 176.

⁶ Sipra Nandi, *op. cit.*, p. 95.

⁷ George Watt, *op. cit.*, p. 176.

⁸ *Ibid.*

⁹ *Ibid.* p. 180.

¹⁰ Please see Chapter IX, p. 124.

¹¹ George Watt, *op. cit.*, p. 175.

¹² H. Goetz, *The Art and Architecture of Bikaner State*, pl. 40.

¹³ Museum Acc. No. 56.149/1-2.

¹⁴ Museum Acc. No. 65.446 & 65.447. Both couples are presently displayed in the 2nd floor gallery devoted to the Decorative Arts.

Ivory casket from Mysore.

The Delhi exhibition of 1903 had exhibited an ivory casket bound in richly repoussed gold¹. The side panels of the casket depict jungle scene, one of the most beautiful showing elephant catching. The panel on the lid is a mythological subject, looks like multi-headed Rāvaṇa shaking Kailāsa on which Śiva and Pārvatī are seated flanked by Gaṇeśa and Kārtikeya. The scene is encased with a floral and creeper design. The carving resembles such scenes carved on sandal wood boxes and is datable to c. 1900 A.D.

Ivory book covers

The palm leaf manuscripts were usually encased within two wooden or ivory covers to prevent them from warping. The ivory book covers were rare and usually limited to royal copies only. The National Museum, New Delhi has an ivory book cover in its collection showing floral and creeper design on its outer side, the inner side being plain. The Prince of Wales Museum, Bombay also has an ivory book cover fragment² measuring 11×10.8 cms. It is decorated with beadings and rosette-end leaf borders carved in relief. The plaque is divided into three arched panels with *kīrtimukhas*. To the left stand a bejewelled figure of Sītā wearing a *sārī* and breastband and holding a lotus in the left hand; a pine cone is in the foreground. In the middle stands Rāmā wearing a *vanamālā* and jewels and holding the bow and arrow in his hand. The figure of Lakshmana is damaged. The reverse shows borders comprising leaves, rosettes, triangles and beads. The central panel, within a cartouche, depicts a flower vase with parrots. The patterns are lightly scooped and filled in with green and red paint. It is datable to c. 1800 A.D.

An elderly couple and mother and child from Lucknow

During the 18th and 19th centuries Lucknow too became a centre of ivory carving. The Victoria and Albert Museum, London has three figures—a man and women in seated postures and a mother and child in standing position³. All the three figures have been treated rather boldly, specially at a time when figure carving in ivory was rather rare. The man wears a *jāmāh* with floral pattern, a pearl necklace, a belt and a *pagaḍī* with *kalagī*. His moustache and three lines on forehead show that he is a Hindu noble and so is the lady wrapped in a *sārī* having leaf pattern. Same pattern is seen on the dress of the standing mother, the third figure. These figures were most probably produced in late 18th century at Lucknow.

A model of palanquin with bearers from Mysore

The National Museum, New Delhi has a miniature model of a palanquin (Pl. 109), being carried by four bearers and escorted by two attendants, one on either side. A queen is seen sitting inside. The palanquin is painted with floral and scroll design as well as seated human figures. All these figures, carved separately and assembled together, stand on a rectangular platform having railing on its two sides.

The dress and treatment of the figures as well as the painted designs make it apparent that it was carved in Mysore (Karnataka) during the 19th century A.D.

Mirror frame

Among many new uses to which ivory was being put to in the 19th century, the mirror frame is quite important⁴. The pediment¹ of one such example shows Krishna's theft of the clothes of the celestial milk maids while they were bathing.⁵ The side panels of the mirror depict the contemporary pleasures of the Indian and English gentlemen. The former smokes his *hugga* listens to the song of the dancing girls and cherishes his wife and children. The latter walks abroad with English lady (wearing

¹ George Watt, *op. cit.*, pl. 40.

² Moti Chandra, p. 63, pl. 16 a, b.

³ Ajit Ghose, "Some old Indian ivories", *Rupam*, No. 32, p. 127, figs. E, F and G.

⁴ J.L. Kipling, "Indian ivory carving". *The Journal of Indian art*, July, 1805, No. 7, p. 52.

⁵ Recently, the National Museum, New Delhi has acquired an ivory comb showing the same theme (74.96).

skirt) and goes for hunting. All these scenes are depicted in panels which are carved in crude reliefs, while the two lower legs are carved like lion's paws, two leaning boys are fixed on the upper two corners. According to Kipling, the mirror frame was produced in central India during the 19th century A.D.

Ivory gun-powder flask

A fish shaped ivory inlaid gun-powder flask (Pl. 107) is a typical example of its type manufactured in plentiful during the 19th century¹. The chevron pattern ivory pieces, nailed together on the body of the fish, make a realistic impact. Her mouth, which is also the mouth of the flask, is also well carved like that of a fish. It was made in Rajasthan.

Comb carved with Mahalakshmi

J. L. Kipling has illustrated an ivory comb from Satara, Maharashtra, which shows goddess Lakshmi being bathed by two elephants whose uplifted trunks carry *chambus*. Six other panels, three on either side, show *yaksha* type figures. A floral border enclose these figures. It was manufactured at Satara in the 19th century A.D.²

Ivory figures of female musicians from Jaipur

The Prince of Wales Museum, Bombay has several miniature figures of female musicians playing on different musical instruments.³ Four such figures, depicted on the *Desk Diary*, 1968⁴, show them wearing skirt coming upto ankles, blouse and a sash. Their hair are tightly combed and culminate in a pony-tail and they are wearing profuse jewellery. All these figures are bare-footed.

Two other similar figures with the same museum show two females standing facing each other, one holding a parrot and the other a *pitchkari* (?). Their skirts are patterned and they are wearing crown showing their noble ancestry. Both are wearing shoes as well.⁵

All these were carved in the 19th century, most probably at Jaipur. During this period the composition tends to become awkward and the treatment is static. They all lack the expressive quality of the earlier days probably because of mass production.

An ivory seated dog

The Prince of Wales Museum, Bombay has a small seated dog figure of ivory, painted with brown, pink and black spots.⁶ He is seated on a rectangular platform facing front and has a vigilant look, so characteristic of the dogs. This was also produced during the 19th century A.D.

Ivory inlaid rifle butt

Ivory was also used for inlaying the gun and rifle butts. The present example (Pl. 108), housed in the National Museum, shows floral patterned inlay on the rifle butt.⁷ Its narrow size did not allow much scope for inlaying work. This, too, was done in Rajasthan during the 19th century A.D.

Ivory inlaid furniture

During the 18th-19th centuries ivory was increasingly used for veneering European style furniture made in India. Perhaps it became the fashion of the day in Europe to have Indian ivory worked furniture.

The Delhi Durbar exhibition of 1903 had exhibited a back-rest of a settee from the Palace of Mysore collection.⁸ It was a tympanum shaped and perforated panel of intertwined four-footed and

¹ National Museum Acc. No. 58.45/1.

² J. L. Kipling, "Indian ivory carving", *The Journal of Indian Art*, No. 7, p. 51.

³ Poona too had some ivory comb makers, cf. Cecil L. Burns, *A Monograph on Ivory Carving*, pp. 8-9.

⁴ *Desk Diary*, 1968, Tata Sons Pvt. Ltd., pl. 28.

⁵ *Ibid*, Cover figures.

⁶ *Ibid*, Pl. 23.

⁷ *Ibid*, pl. 25.

⁸ Museum Acc. No. 61.446.

⁹ George Watt, *op. cit.*, p. 189, pl. 78.

feathered dragons, of all shapes and sizes, richly carved, gilded, stained and lacquered. Underneath was a band of cuspedly arched panels each filled in by perforated ivories, depicting trees with birds on the boughs and animals resting beneath. The frame of the whole structure was elaborately veneered with ivory, every portion of which was engraved and painted. It was produced in Mysore during the 17th century.

Queens collection, London¹ has a chair veneered and engraved with ivory. The back-rest shows entwined lion's heads. Other decorations, all over the chair, shows floral and creeper designs in contrasting black colour. This was produced in Madras in c. 1770 A.D.

It is also known that Warren Hastings, the first Governor-General of India, acquired some ivory inlaid furniture from Murshidabad², presented to his wife by Mani Begum, originally a nautch-girl from Delhi and later Begum of Murshidabad, wife of Mir Ja'far³. Yet another letter, written by Hastings from London on 20th, May 1786 to his Agent in Calcutta also mentions the ivory furniture.⁴ The two letters show the importance the Indian ivory furniture had attained in the then British Society. Further, an ivory bed was presented by Warren Hastings and his wife to Queen Charlotte of England⁵, for which she had to hear from Burke that "Queen's virtue was only exceeded by her avarice".⁶ The fact that the Queen of England was presented with an Indian ivory cot shows the importance attached to the product by that time.

Recently a settee of carved ivory with painted and gilt decoration was published by Veronica Murphy⁷. Its legs, five in the front, have been shaped like the lion's paws. The decoration shows floral and leaf designs on the legs as well as on the back-rest. A chair with exactly similar design is housed in the Victoria and Albert Museum, London.⁸ Both these seem to be product of Mysore during the second half of the 18th century. Some people have tried to link these furniture pieces to Tipu Sultan of Mysore but that is yet to be established.

A toilet glass, on a stand of stepped drawers, in veneered and engraved ivory⁹ is a superb example of late 18th century Mysore workmanship. Cabinet and stand of rosewood, inlaid and veneered with engraved ivory¹⁰ is a fine example of Madras workmanship. It is well known that ivory furniture was made to European designs in Bengal, Madras and Mysore in the 18th century. The Bengal furniture was mainly of solid ivory, carved and turned, while that of the South tended to be veneered, engraved, and inlaid on wood.

Carved ivory inlaid carriages

The Maharaja Banaras Vidya Mandir Museum, Ramnagar, Varanasi has an unique example of a horse-carriage, locally called *tam-tam*, which is profusely covered with carved ivory panels, so much so that even the spoked wheels are covered with ivory. On the two sides, it has several rectangular medallions, the central one showing Maharaja of Kasli's emblem while the others show hunting scenes. Varanasi seems to have been continuous centre of ivory production.¹¹ One of the Maharaja's palanquin and one *haudah* also have ivory decorations.¹²

¹ Veronica Murphy, "Art and the East India trade (1500-1875) and some little-known ivory furniture", *The Connoisseur*, Dec. 1970, p. 233, fig. 5.

² *Ibid.*, p. 232. In a letter dated 14th, Nov., 1784, Warren Hastings wrote to his second wife Marian; "The Begum sent me more than one message expressive of her disappointment at my passing the city (Murshidabad) as she had prepared an elegant display of your chairs and couches for my entertainment.....".

³ *Ibid.*

⁴ *Ibid.* It states, "Remember to enquire for and to send my ivory cot.....Mrs. Hastings desired to inform you that the Begum's ivory chairs are of great value.....".

⁵ K. Feiling, *Warren Hastings*, pp. 310, 321.

⁶ *Ibid.*

⁷ Veronica Murphy, *op. cit.*, fig. 6.

⁸ *Ibid.*, fig. 7.

⁹ *Ibid.*, fig. 11.

¹⁰ *Ibid.*, fig. 12.

¹¹ G. Watt, *op. cit.*, p. 178. The tradition continued till the merger of the states in Indian Union. The author had the good fortune of interviewing the last ivory carver of the Maharaja's Court in the year 1971 when he had already switched over to the profession of the watch-repairer.

¹² Y. P. Dwivedi, *A Brief Guide to Maharaja Banaras Vidya Mandir Museum*,

During the 17th-18th centuries carriages were often covered with ivory carved panels. Coomaraswamy has illustrated two such examples from Tanjore.¹ While one of these shows only carved panels, the other carriage was embellished with carved and veneered panels. The Mattancheri Palace Museum, Cochin has also exhibited a 18th century palanquin embellished with ivory.

As against such carriages the Murshidabad artists excelled in carving peacock-shaped boat (*Muyūrankhi*) models in ivory. The Indian Museum, Calcutta has several such examples, one of which shows a pavilion over the barge making it apparent that it is a royal boat.² Twelve boat-men are rowing it and two other stand guards. Its outer body is beautifully carved giving it a feather like treatment. Its right end is shaped like a peacock-head. It is a 19th century product from Murshidabad, Bengal.

The subjects of common interests, such as *ekka* or carriage drawn by a horse, formed popular theme of ivory carvings during the 18th-19th centuries at Lucknow. The vigorous portraiture of the horse and the driver with his peculiar head-dress, and the dress of the nobleman seated inside with a special headgear, typical of the period of Nawabs of Lucknow, not only fixes the locality of its manufacture but also indicates its period, i.e. 19th century A.D.³

Ivory Khaḍāun (Sandals)

The National Museum, New Delhi has a pair of ivory sandals carved at Murshidabad.⁴ It has carving also which shows hat wearing foreigners similar to which are seen on *Balūcher sūris*. These were produced in the 19th century.

Ivory Thumb-guards

Indian archers have been famous for their marksmanship for centuries. These archers, in order to safeguard their thumb while shooting arrows, used thumb-guards made of jade or rock crystals, etc. but sometimes also of ivory. Udaipur, Rajasthan was famous for these thumb guards (*ungot dāns*) most of which were richly coated all over with pale green, or dark claret red, or deep brown or other colour of lac. Through this and on the white surface below a delicate design was scratched which usually depicted hunting scenes.⁵

Money counting board.

The Delhi Durbar Exhibition of 1903 exhibited a money counting board from Kerala.⁶ It demonstrated the purity in design and feeling, which is a feature of the Kerala ivories. The rectangular board had circular holes which could accomodate 100 Chukrams for counting purposes. Its handle showed floriations proceeding from addorsed leogriffs. It was produced in c. 1900 A.D.

An octagonal ivory box

The box illustrated by Burns,⁷ was made of small pieces of ivory joined together at each angle of the octagon, while the top was carved from a solid piece. The later which served as a lid, was decorated with two reclining male and female figures probably under a tree. The male figure was seen holding a sword by the right hand, while the female figure was shown reclining on a lion with a bird on her knee. The sides of the box are decorated with male and female figures who seem to be the attendants standing in front of the doors. The box had octagonal base and eight legs. The whole box was decorated with minute floral and geometric designs and motifs and was made at Bhuj, Gujarat during the later half of the 19th century A.D.

¹ A. K. Coomaraswamy, *The Arts and Crafts of India and Ceylon*, fig. 137-138.

² Sipra Nandi, *op. cit.*, fig. II, A similar boat, produced in the recent years, exists in the Crafts Museum, New Delhi.

³ A. K. Bhattacharya, 'A Survey of the art and technique of ivory in India', *Studies in Indian Culture*, Dr. Ghulam

Yazdani Commemorative Volume, p. 142.

⁴ Museum Acc. No. 56.76/6A-B

⁵ G. Walt., *op. cit.*, p. 180

⁶ *Ibid.*, p. 188.

⁷ Cecil L. Burns, *A Monograph on Ivory Carving*, pp. 4-5, pl. Ia and Ib.

Ivory and silver woven mat

The Maharaja Banaras Vidya Mandir Museum has more than one example of mat woven with the thin stripes of the ivory and silver. One of these shows square pattern in the field and geometrical floral patterns on the borders. These are said to have been woven around 1900 A.D.¹

In this connection it may be interesting to note that Srimhatta or Sylhet in Assam has long been famous for its 'ivory mats, fans and other articles'.²

Ivory pen cases

The Maharaja Banaras Vidya Mandir Museum, the National Museum³ as well as many other museums in India have ivory pen cases produced in the 19th century. Usually they show low carved floral patterns on their lid and body and have several compartments inside including those for ink-pots.

Bone figures from Orissa

The National Museum, New Delhi has several small bone figures showing mother and child theme.⁴ While two of these show the mother reclining, two others show them carrying the baby in their laps. Yet another shows the mother in seated posture feeding the baby. The sixth piece shows the mother busy in some household task. These fertility figures were carved in 19th century in Orissa.

Ivory toys and other game pieces

Ivory, being a status symbol since times immemorial, was used for preparing toys also for royal and rich children. Rattles, yo-yo discs, *luttoos*, etc., were the items produced from ivory. Sometimes these were coloured, too.

Jaipur specialised in producing chess and *chaupada* game-pieces. Most of these are coloured in bright plain colours. The National Museum has a complete chess set, figures ranging in height from 2 cms to 5 cms.⁵ These are coloured in green and mauve colours. The same museum has exhibited a *chaupada* set also, which is painted in red, green, black and brown and show creeper designs in golden lines⁶. Many other museums in the country have such 19th century chess and *chaupada* sets in their collection.

Ivory paper knives

Ivory paper knife, used to open letters by nobles and other rich persons, seems to have been in vogue during the 18th and 19th centuries. The Maharaja Banaras Vidya Mandir Museum has a paper knife shaped like a dagger. The National Museum, New Delhi has a paper-knife with broad flat end having peacock feather design⁷. The handle shows large leaf pattern and is surmounted by a bird (Pl. 110). It is a typical product of 19th century Kerala workmanship.

Ivory figures of gods and goddesses

Bengal has a long tradition of making clay, stone, wooden and bamboo-pulp Durgā and Sarasvatī figures for annual *pūjās*. Usually such figures are prepared every year and then immersed in the Ganges, but some ivory figures of Durga, perhaps carved for home-shrines during the 19th century, still survive. Though smaller in size such figures show how ivory came to be used for tradition-bound figures of gods and goddesses.

The Indian Museum, Calcutta has a multi-armed Durgā Mahiśmardinī, carved of ivory at Murshidabad during the 19th century A.D.⁸ It is composed of several smaller pieces. Gaṇeśa on her right and Kārtikeya to her left. Besides the demon Mahiśa, she is flanked by two attendant figures. The back

¹ Information courtesy the last court ivory carver of Maharaja Banaras.

² G. C. Dutta, *A Monograph on Ivory Carving*, pp. 1-10. A similarly woven hand-fan (*Pankhā*) having ivory handle is exhibited in the National Museum (Museum Acc. No. 58.4/22)

³ Museum Acc. No. 57.92/16.

⁴ Six of these were exhibited in the 'Mother Goddess' exhibition held in the year 1976.

⁵ Museum Acc. No. 59.306/1-32.

⁶ Museum Acc. No. 63.1526/1-19

⁷ Museum Acc. No. 56.23/2

⁸ Sipra Nandi, *op. cit.*, fig. 1

arch, or *prabhā* shows many figures carved in low relief. Several decorative attachments in the shape of *turanj* decorate the *prabhā*. Almost a similar figure was shown in Delhi Durbar Exhibition of 1903.¹

The Indian Museum, Calcutta collection has yet another figure of Devi, i.e. Kali trampling a corpse.² This shows four-armed figure standing over a corpse and a *prabhā*, with usual attachments, is at her back. It was carved at Murshidabad during the late 19th century.

A seated figure of four-armed Gaṇeśa is still more interesting, as it is flanked by two attendant figures dressed in late 19th century *achakan*, trousers and *pagadi*.³

The National Museum, New Delhi has several small figures showing various deities. The gallery exhibits Braham,⁴ Surya⁵ and a few others. Brahma and Surya seems to have been made in South India.

The Los Angeles County Museum of Art, Los Angeles has a figure of Murlidhar Krishna standing playing on flute on a round ivory pedestal. The child Krishna (Pl. 111) is naked and the only cloth he has hangs on his right arm. He is wearing a crown, two necklaces, one armlet, girdle and bangles. The statue was damaged at the forehead. His body and face is rather plump and reminds the onlooker of the christian angel figures of 19th century. The face is radiating with a divine smile. In all likelihood it was carved at Delhi as the city seems to have specialised in making the tourist-trade oriented figures from 19th century onwards.

Conclusion

During the period under review ivory expanded among the middle classes and brought about a wider adoption of the material whereas previously its ownership was limited to noblemen, kings and rich only. If viewed on a wider horizon it was in keeping with the 18th century emancipation of the middle classes who began to attain better economic and social status. Besides being carved as usual plaques, statues and the like, the ivory was now also used for cuff-links, buttons, inlay in wood and boxes of various types.

The change is reflected in themes as well. Objects of common interest, such as *ekka* (the two-wheeled horse carriage), palanquin-carriers, dogs, elephant and camel riders, etc. were also carved in ivory. Such products had no utilitarian purpose to serve except being objects of decoration.

Another very important development during this period was the association of various centres of ivory production with certain type of products. A Mayūri boat or a multi-armed Durgā was produced at Murshidabad or other neighbouring centres of Bengal. Similarly Orissan carvers attained proficiency in intricate *jālī* work, those of Jaipur in preparing Mughal type figures and coloured chess and *chaupaḍa* game pieces. Ivory carvers of Mysore and Kerala excelled in carving figures of gods and goddesses. The striking feature of Delhi work of the 19th century was a rich flat arabesque tracing with lace-like perforation arcing mythological or animal panels.

Bone's use for carving declined during this period and except for some small figurines showing mother and child from Orissa, in all likelihood connected with some secundity rights, not much is found by way of bone carvings. The carvers, however, discovered that the use of stag's horn (once the outer bark is chiselled it looks as pale-white as the ivory) for inlay work in wooden furniture gives almost the same effect as that of the ivory.

The colouring of ivory came more in vogue during this period. Specially the boxes and in many cases furniture items were embellished with rich colours. Chess and *chaupaḍa* game pieces were often coloured.

¹ George Watt, *op. cit.*, pl. 40.

² Sipra Nandi, *op. cit.*, fig. 111.

³ *Ibid.*, fig. 1V.

⁴ Museum Acc. No. 62.470.

⁵ Museum Acc. No. 62.469.

Mass production of these items, however, made them quite mechanical and stereotyped. The products lacked the expression of warm feelings noticed in early periods. The souvenir items, either gods and goddesses or utilitarian objects like table lamps or jewellery-boxes, are very intricately carved and make one marvel at the competence of the carvers but they all look alike. The earlier touch of individual finish is lacking because of the mass production,

In many cases, specialisation being the trend of the day, each ivory object had to undergo several hands before reaching the buyer. The obvious result was that the products lacked the fine finish. Some times the utilitarian purposes also restricted the embellishment.

As regards the supply of raw material each centre had its own source of supply on which depended the quality of their products. The purity, opacity and stability of the Kerala ivories when compared with the flimsy brittle goods of Murshidabad, are doubtless largely due to the superiority of the green ivory invariably employed by the workers in the former, over the old brittle ivory of the latter locality.

However, it is surprising to note that in none of the regions ivory carving was found to occupy the prominent position that it might have been anticipated to hold in a country where ivory has been artistically worked up for many centuries.

The modern ivory workers mostly make objects of utility such as table lamps, combs, buttons, paper-cutters etc. which have a steady demand from the tourists. Figures of gods and goddesses and decorative figures of elephant or camel riders, etc. are produced as objects of decoration to cater to the tourist-trade. All these products reflect a technical competence of the highest degree but lack the expressive quality, intensity and fervor of the earlier products which comes from devout faith.

There has always been great differences in the artistic ability of the individual carvers, but there is plenty of evidence that every age and period had master-craftsmen. There was also poor quality work resulting from mass production which was also accepted primarily because ivory was a valuable material and was, therefore, preserved. Towards the end of the 19th century the introduction of machines as part of the new industrial age in India accelerated the decline of craftsmen and artists. Rigidity replaced inspiration. Their devotion to details resulting from their technical competence, was at the expense of expression.

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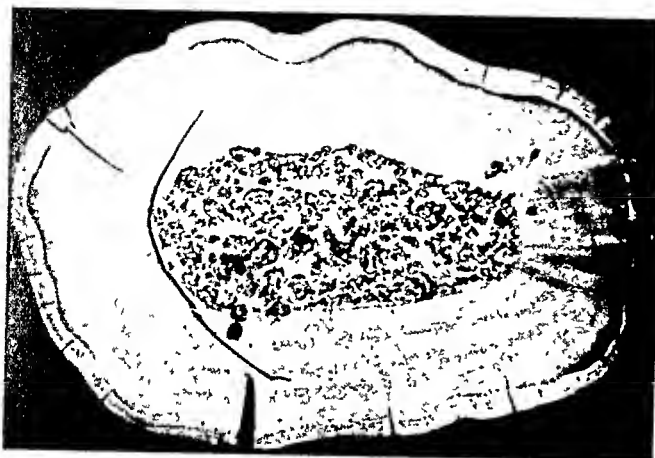
Z

Zanzibar, 4
 Zig-Zag pattern, 32

PLATES



1. An Indian elephant's tusk, size . 100 cm.
See page 1



3. Walrus ivory-piece
← showing inner core.
See page 3

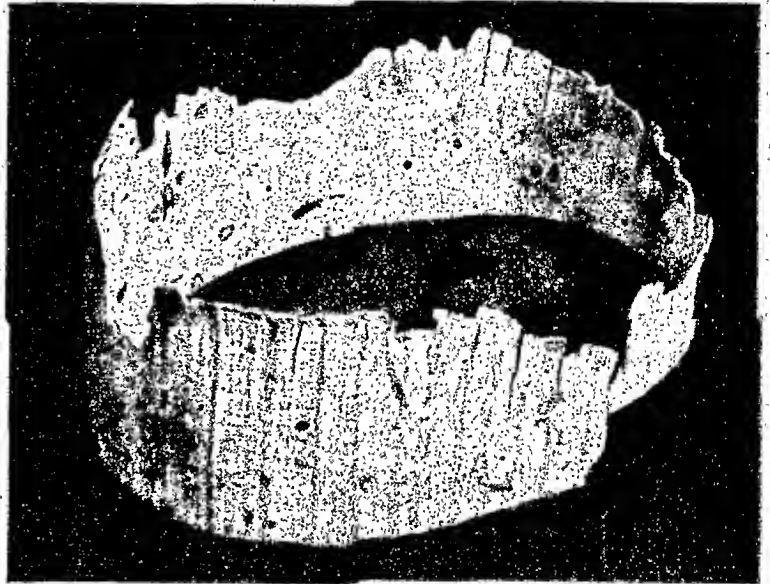
2 Fossil mammoth ivory
showing cone-in-cone
fraction, excavated
from Cassington
Gravels, U.K. →
See pages 2,6



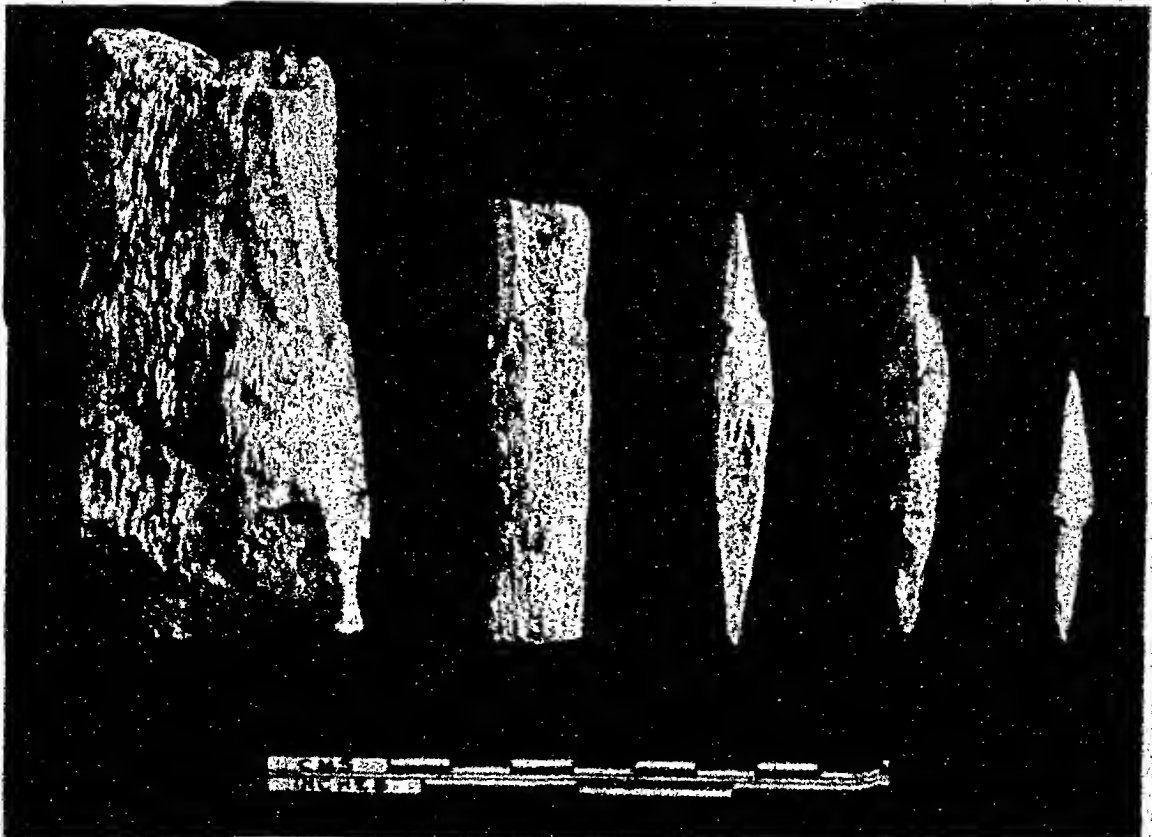


4. 'Noki' or the solid upper ↑
point of a tusk.
See page 6

5. Outer bark of an
elephant's tusk.
See page 6 →

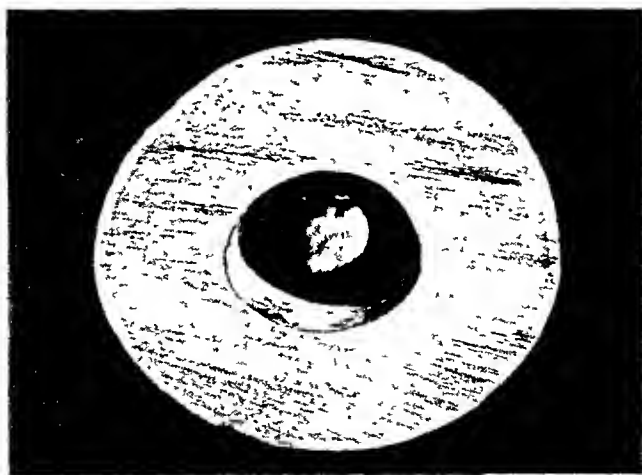


6. Various stages of bone
arrow-head's production,
excavated from Ujjain, M.P. ↓
See page 11





8. An unfinished ivory product showing outlines of the figure.
See page 13



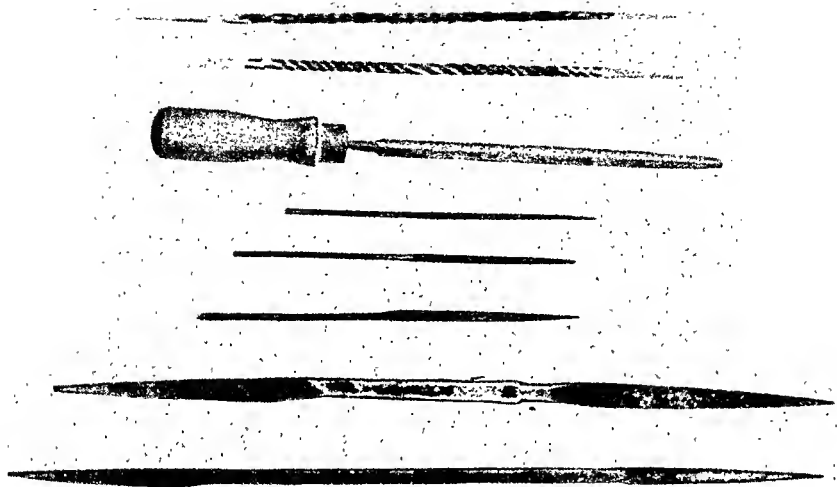
7. Middle part of a tusk showing how the hollowness narrows towards the *nokl*.
See page 13



9. Finished ivory product, modern.
See page 13



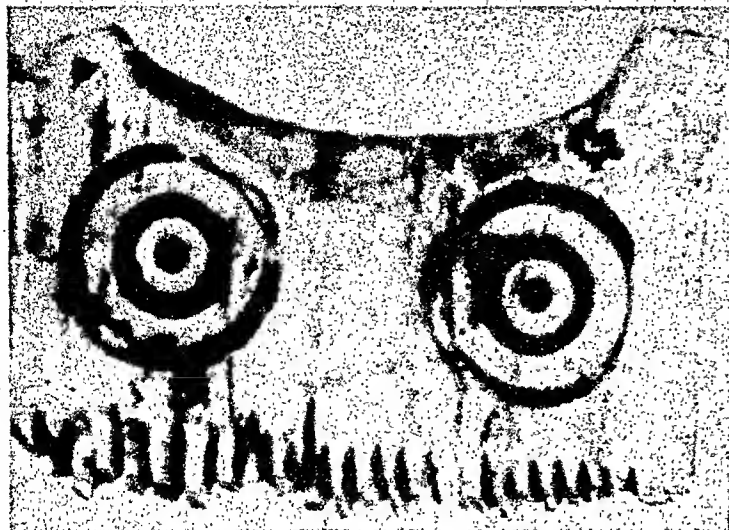
10. Chhudanta Jataka (Bharhut, 2nd. Cen. B.C.) scene showing the cutting of the tusk with a saw.
See page 14



11. Ivory carver's tools, modern.
See page 14



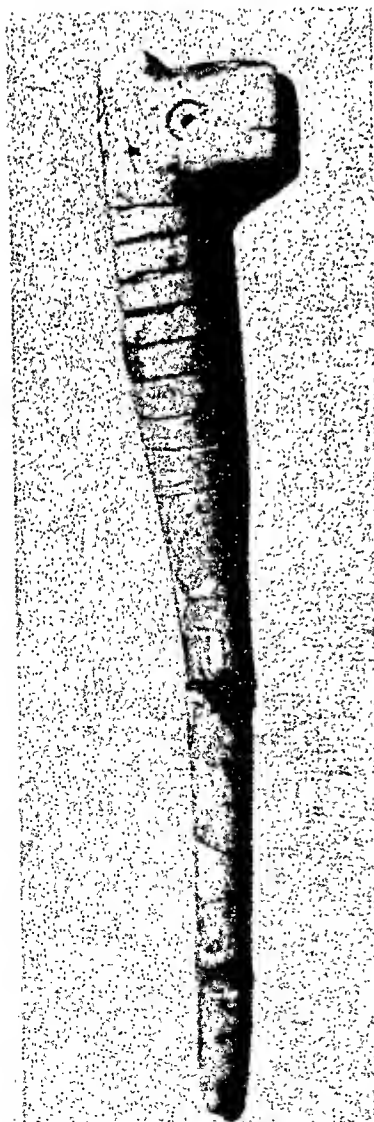
12. Plaque showing a standing male figure, ivory, Mohenjo-daro, c. 2300-1750 B.C.,
size : 4.5×3.5 cms
See page 31



13. Comb with dot-in-circle motif, ivory, Harappa,
← c. 2300–1750 B.C.
See Page 32



15. Fish, ivory, Mohenjo-daro, c. 2300–1750 B.C., ↑
size : 7.5 × 2.3 cms
See Page 33



14. Animal headed hairpin,
ivory, Mohenjo-daro,
← c. 2300–1750 B.C.,
size : 5.5 cms
See page. 33

16. Handle, ivory, Mohenjo-daro, c. 2300–1750 B.C., ↓
See Page 35



- 17 Lathe-turned biton (?)
ivory, Mohenjo-daro
c 2300-1750 B C
length 19.5 cms
See page 36

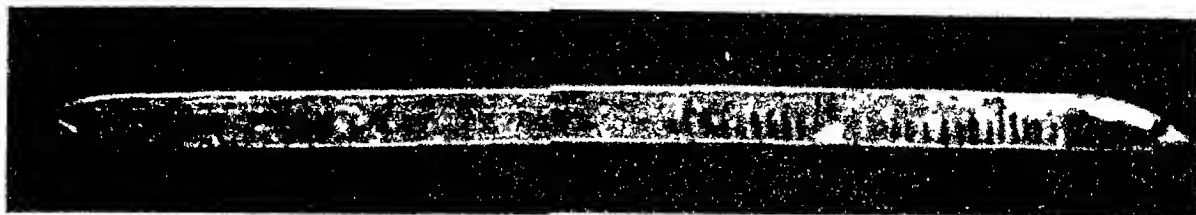


- 18 Peg ivory, Chanhu-daro
c 2300-1750 B C,
length 4.2 cms
See page 37

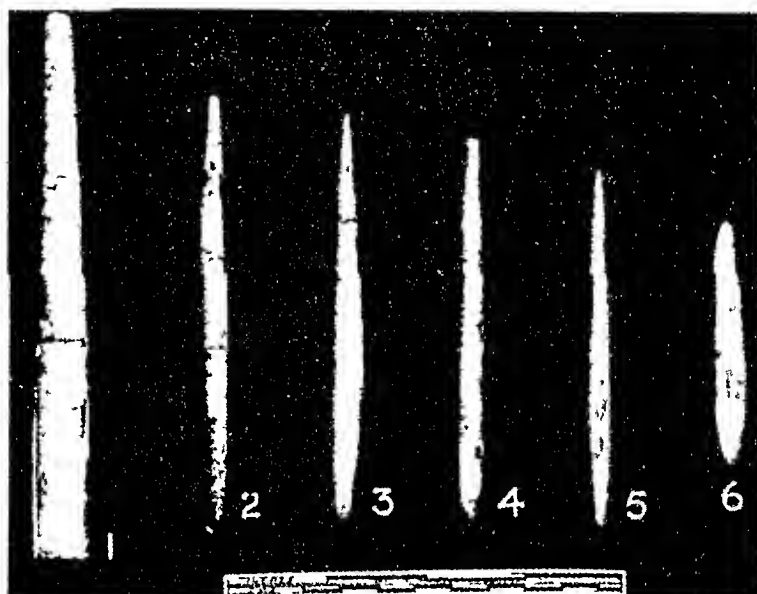


- 19 Peg or terminal, ivory,
Harappa c 2300-1750 B C
↓ *See page 37*

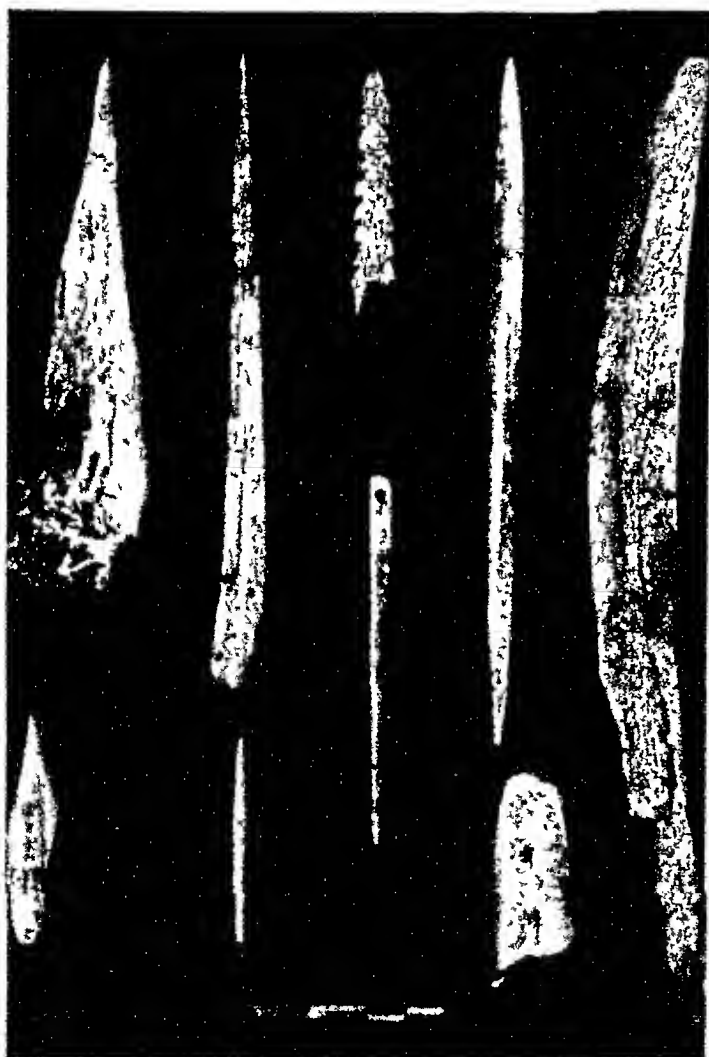




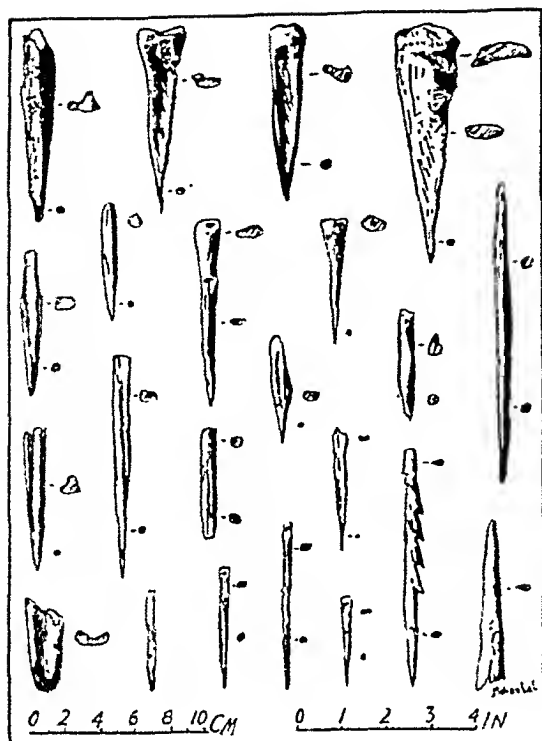
20. Scale, ivory, Lothal. ^
c. 2300-1750 B.C.
See Page 38



21. Rods and points, etc., Lothal,
c. 2300-1750 B.C.
See page 39 →



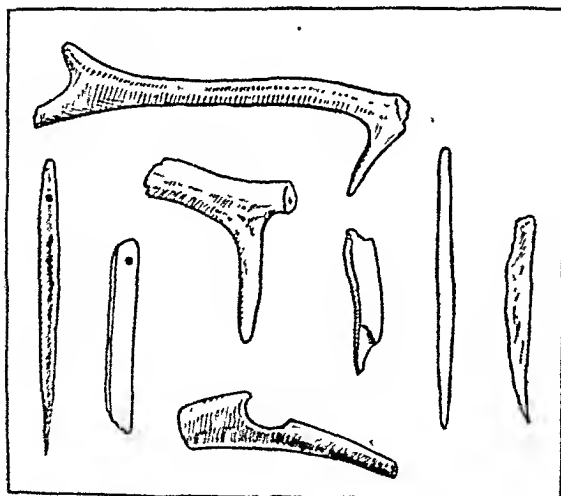
22. Harpoon, awls, needles, antimony-rod
and harvester, bone, Burzahom,
Neolithic, c. 2375-1400 B.C.
← See page 43

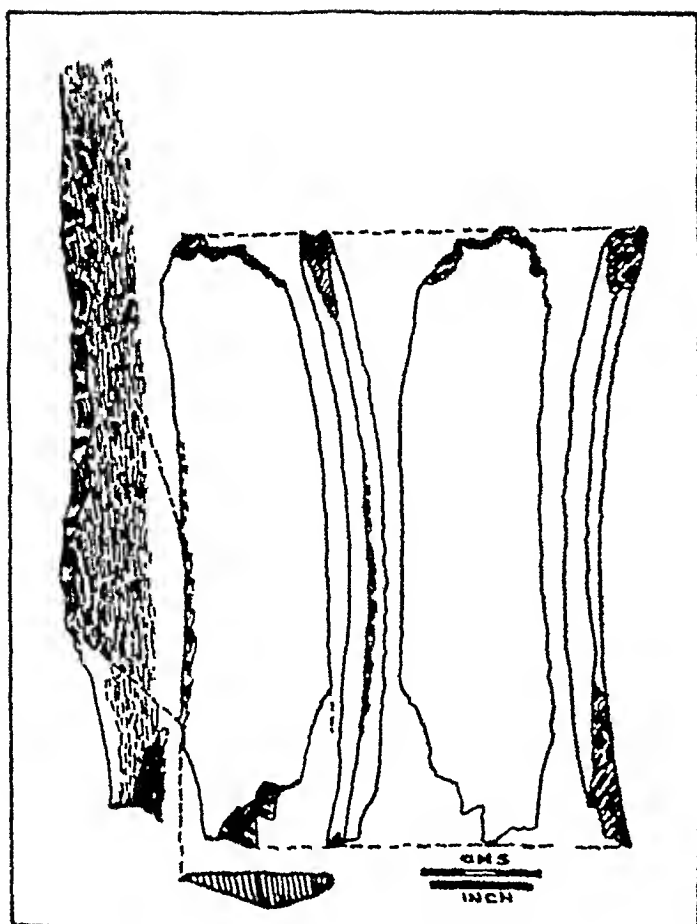


23. Various tools, bone,
Burtahom, Neolithic,
c. 2375-1400 B.C.

← See page 43

24 Various implements, bone, Chirand, Neolithic.
c. 2500-1650 B.C. ↓
See page 44



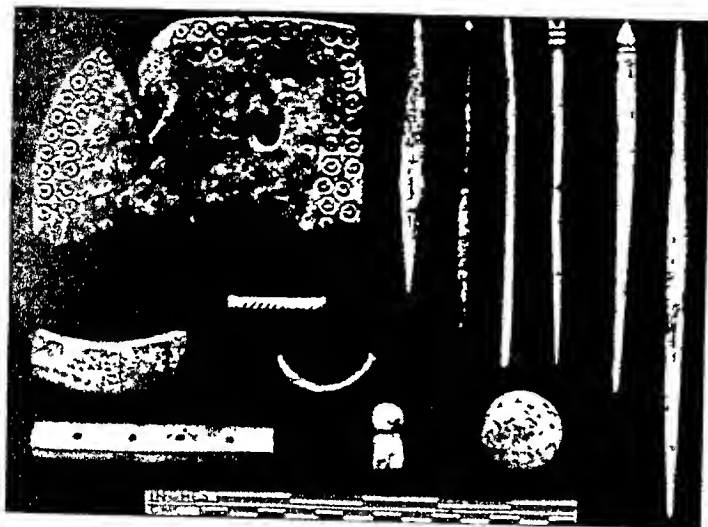


25. Knife, bone, Ahar,
Chalcolithic, c. 1250, B.C.,
← size . 15.7x3.7 cms
See page 46

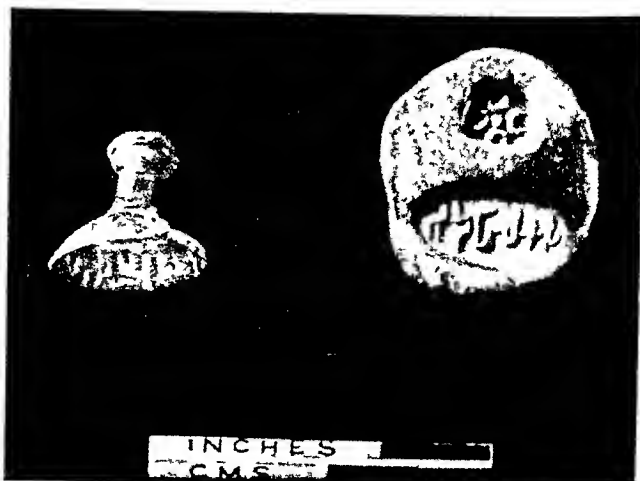
26 Stylus, bone (fourth item from left, upper
row). Prakash, c. 1700-1300 B.C. ↓
See pages 46-54



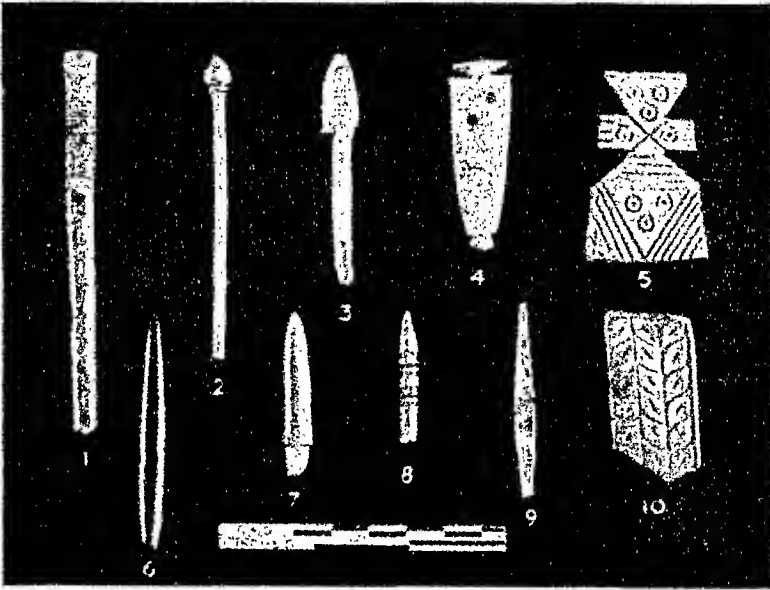
29 Female figure, ivory,
Champinagar,
c 600-500 B C
See page 55 →



27 Comb kohl-sticks etc. ↑
ivory Rupar, c 600-200 B C
See pages 54-55

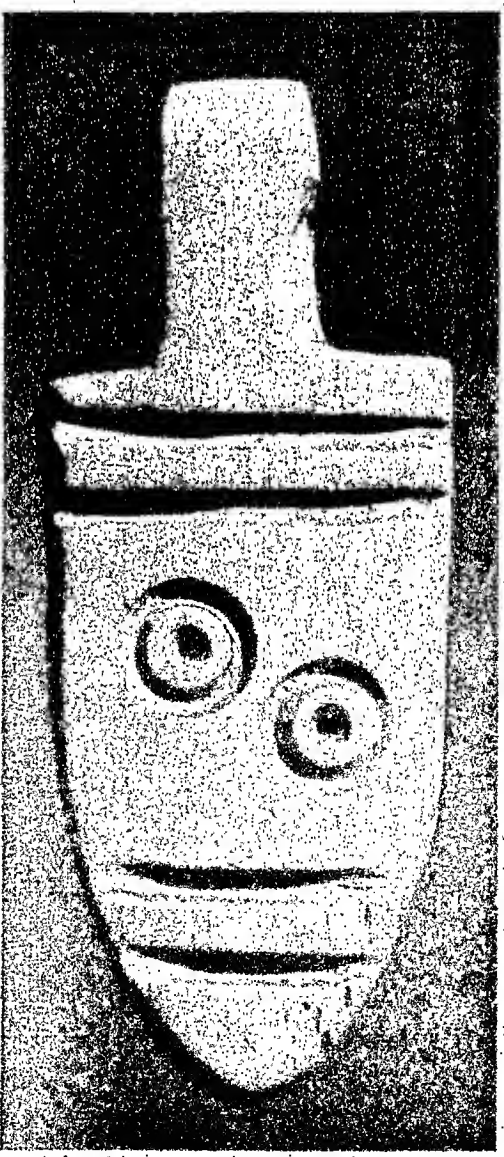


28 Seal and impression ivory →
Rupar c 600-200 B C
See page 55

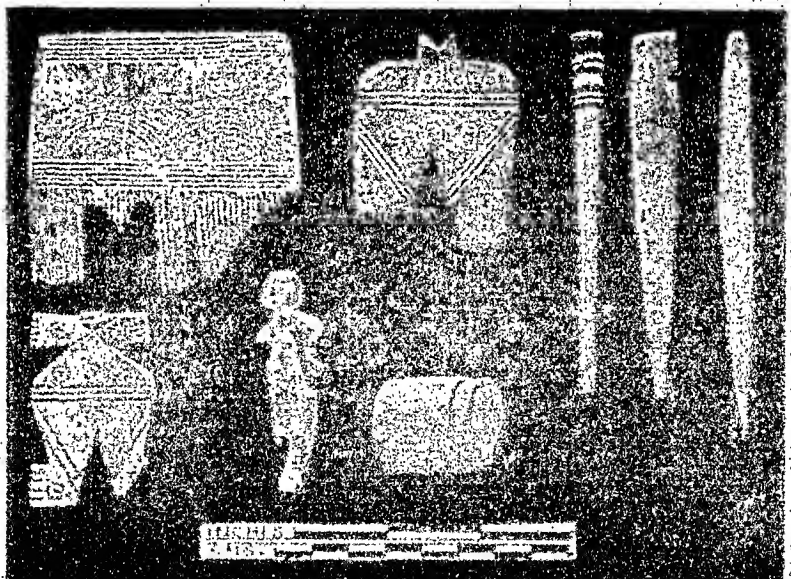


30. Mother-goddess figurine, pendants, kohl-sticks, points, etc., ivory, Prabhasa c. 600-200 B.C.
See pages 55-68

31. Dagger-shaped pendant, ivory, Taxila, 4th-3rd Cen. B.C., size : 4.8 cms
See page 57 ↓



32. Mother-goddess figures, comb, hair-pin, point, etc., ivory, Nagda, c. 500-200 B.C., ↓
See page 59



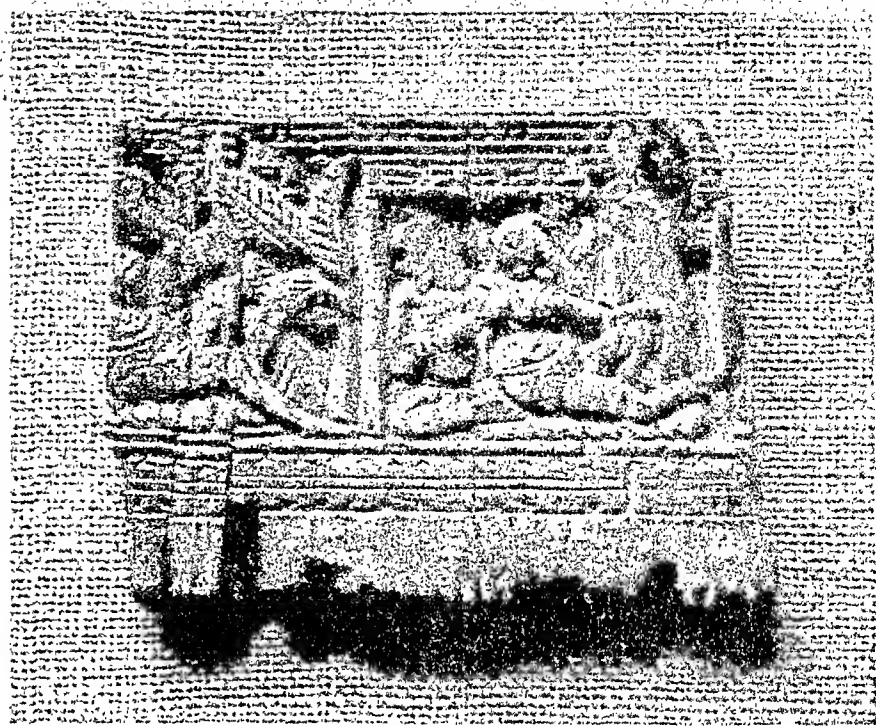
- 34 A standing man, ivory, Taxila,
c. 2nd Cen. B.C., height : 6.7 cms
See page 61



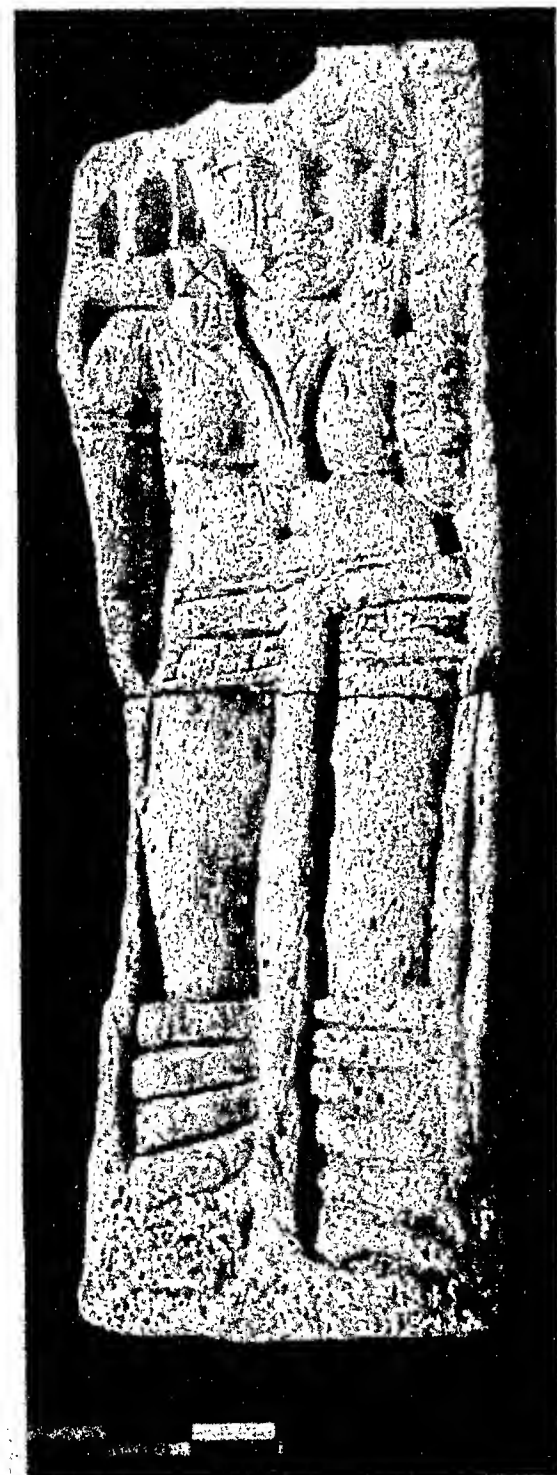
- 35 Bust of a female figure, bone,
Mathura, c. 1st Cen. B.C.
See page 62



40. Comb fragment showing *dampati*,
ivory, Malwa, c. 1st Cen. B.C.
See page 64



38. Standing female figure, bone, Ter.
c. 1st Cen. B.C., height : 16 cms
See page 63



39. Headless soldier, ivory, Patna,
c. 2nd Cen. B.C., height : 6.7 cms
See page 63

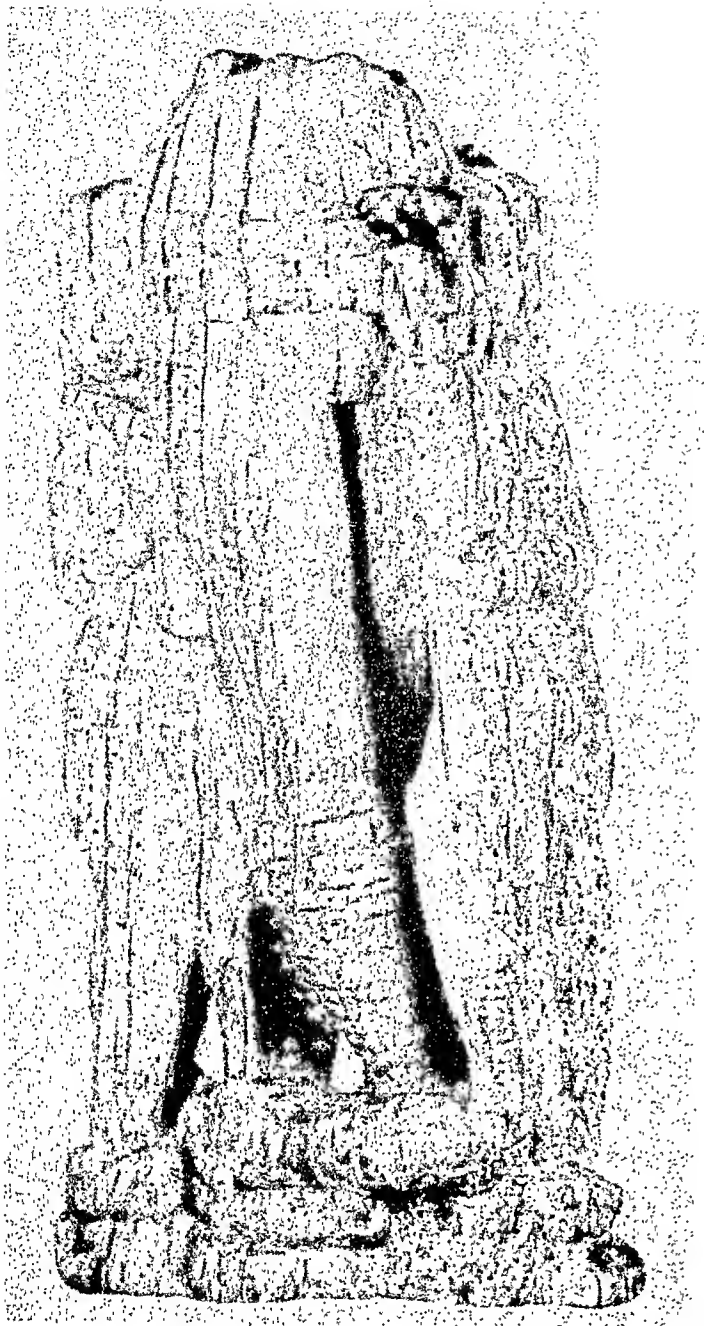




41. Female figure, ivory, (excavated at Pompeii, Italy), Malwa, Later-half of the 1st Cen B.C., height : 24 cms
See pages 64-66

42. Same as above, back view.
See pages 64-66

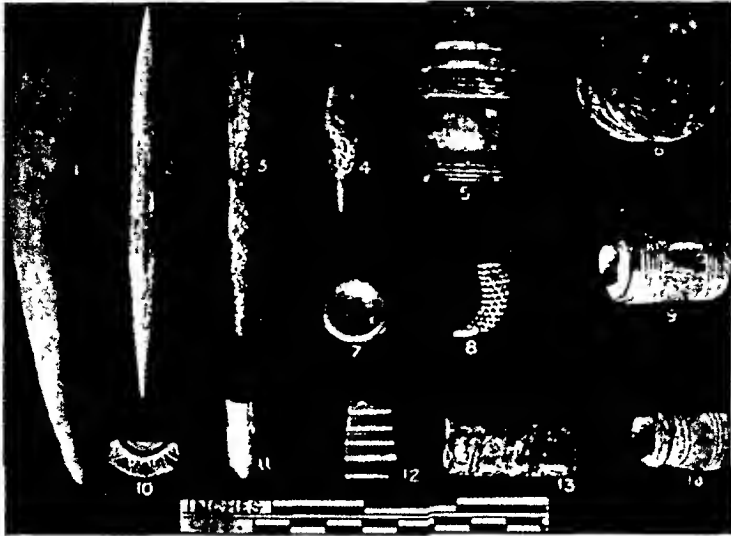




Lower portion of a female figure.
ivory. Bhokardan, c. 2nd. Cen. B.C.
See page 67

44. Same as above. back view.
See page 67



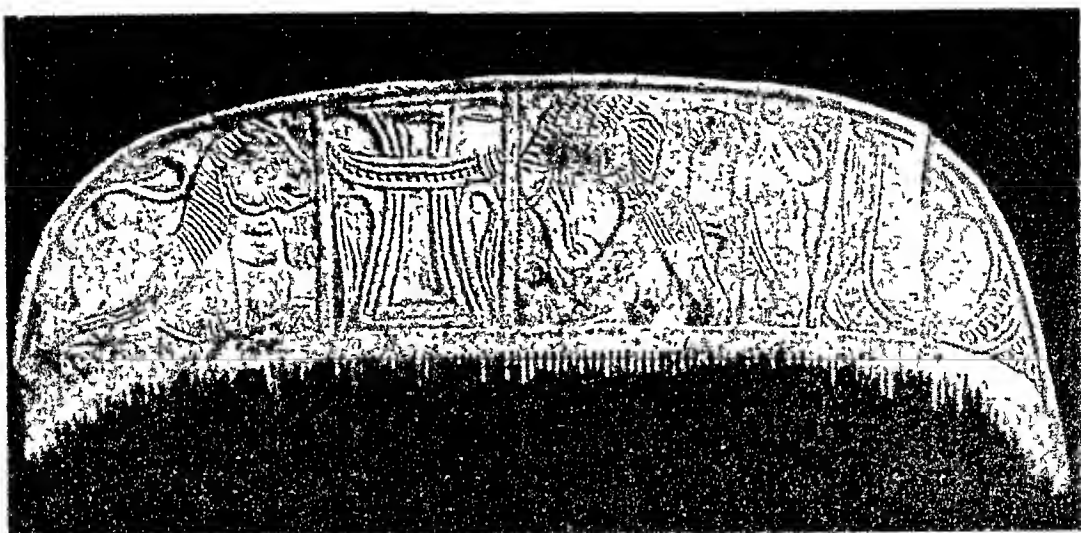
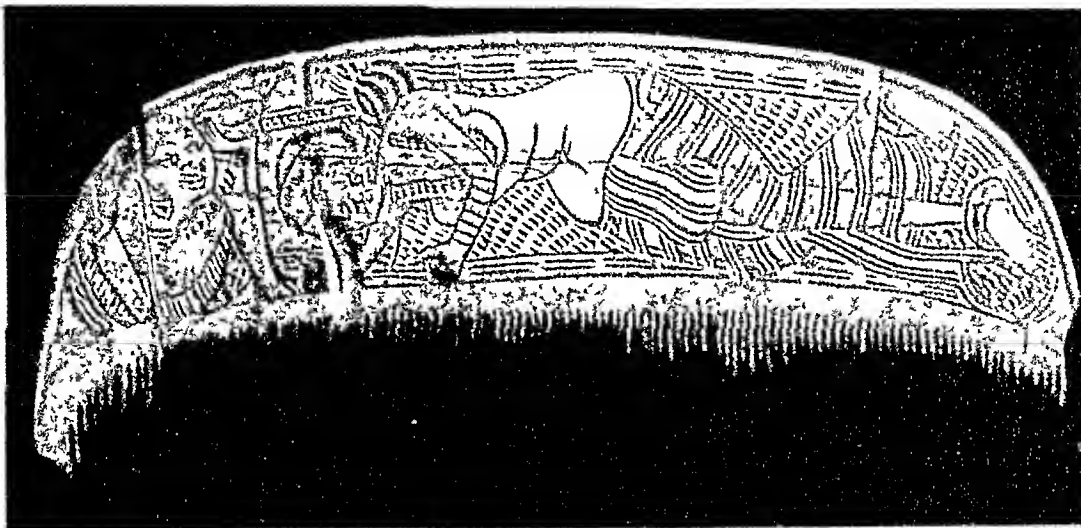


45. Awl and mirror-handle (nos. 4 & 5 only).
bone and ivory, Hastinapur, c. 2nd Cen. B.C.
See page 67

46. Comb showing *dampati* and duck. ivory,
Taxila, Kuṣāṇa, c. 1st Cen. A.D.,
size : 4.8 cms
See page 75

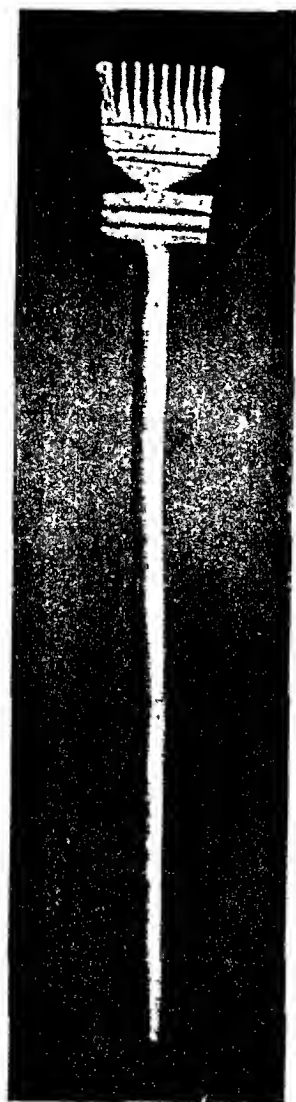
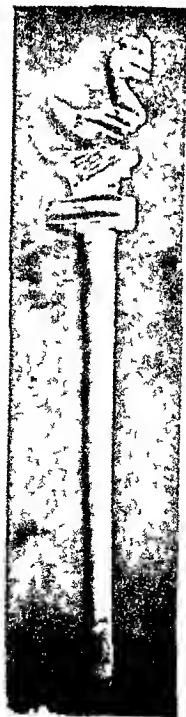


47. Comb showing reclining female and auspicious symbols.
ivory, Taxila, Kuṣāṇa, c. 1st Cen. A.D.
See page 75



48. Same as above, back view
See page 75

- 49 Duck-headed hair-pin, bone, Taxila, Kushāna, c 1st Cen A.D., size : 5.8 cms
See page 75



- 50 Comb-headed hair-pin, ivory, Taxila, Kushāna, c 1st Cen A.D., size : 8.2 cms
See page 76

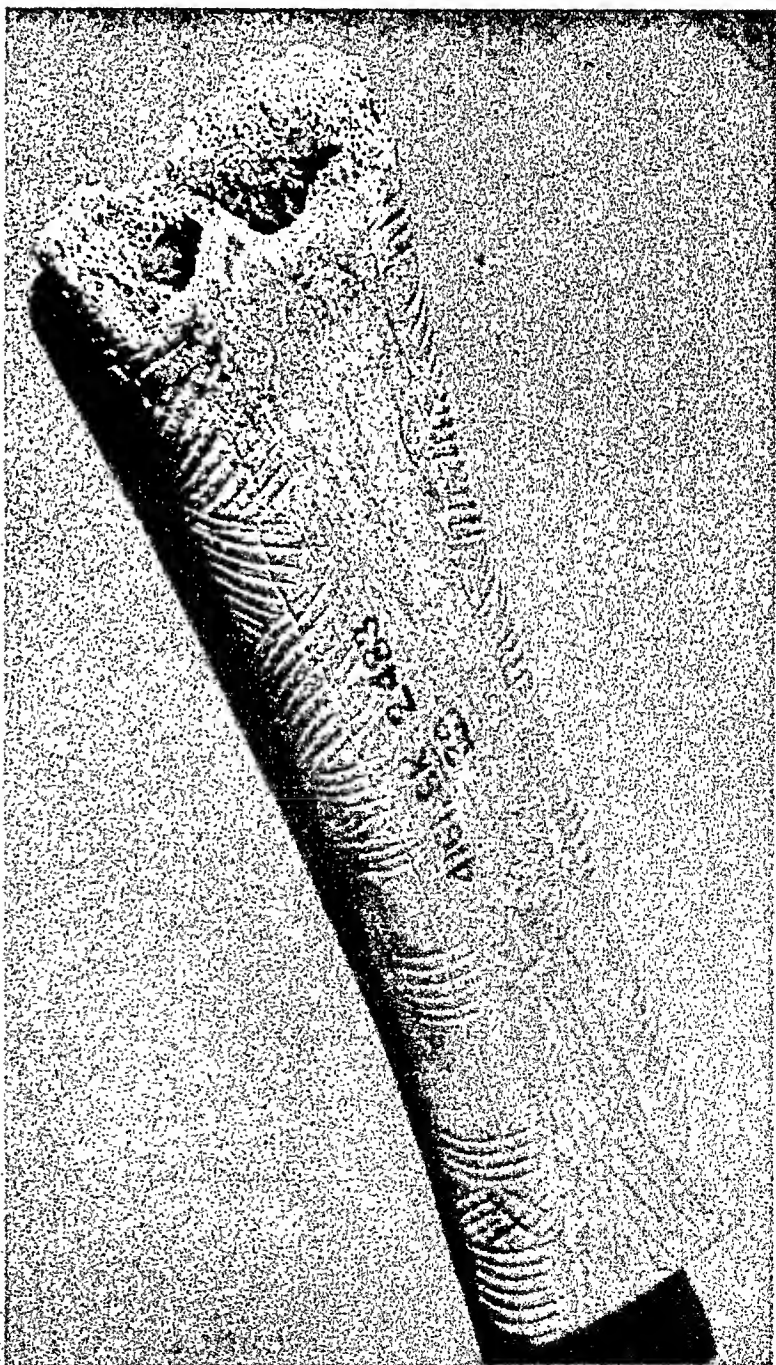
- 51 Ear-Cleaner, ivory, Taxila, Kushāna, c 1st Cen A.D.
size 11 cms
See page 77





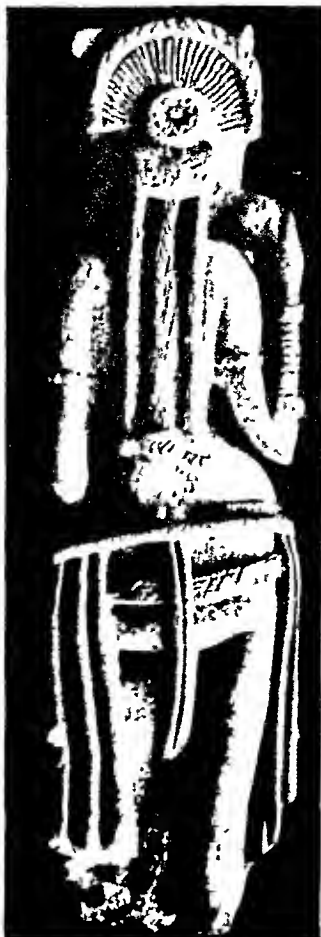
52. Handle showing a female figure. bone. Taxila, Kusāna, c. 1st. Cen. A.D., size : 15.6 cms
See page 77

53. Same as above, back view.
See page 77





54 Mirror handle showing a standing female figure, ivory, Ter, c. 1st Cen A.D., size 12.6 cms
See page 81

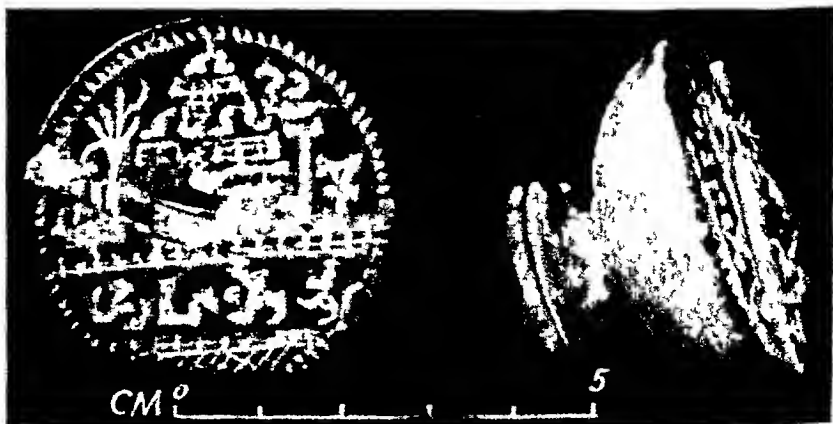


55 Same as above, back view
See page 81



58 Female figure, bone, Jhusi, c. 2nd Cen A.D.,
See page 87

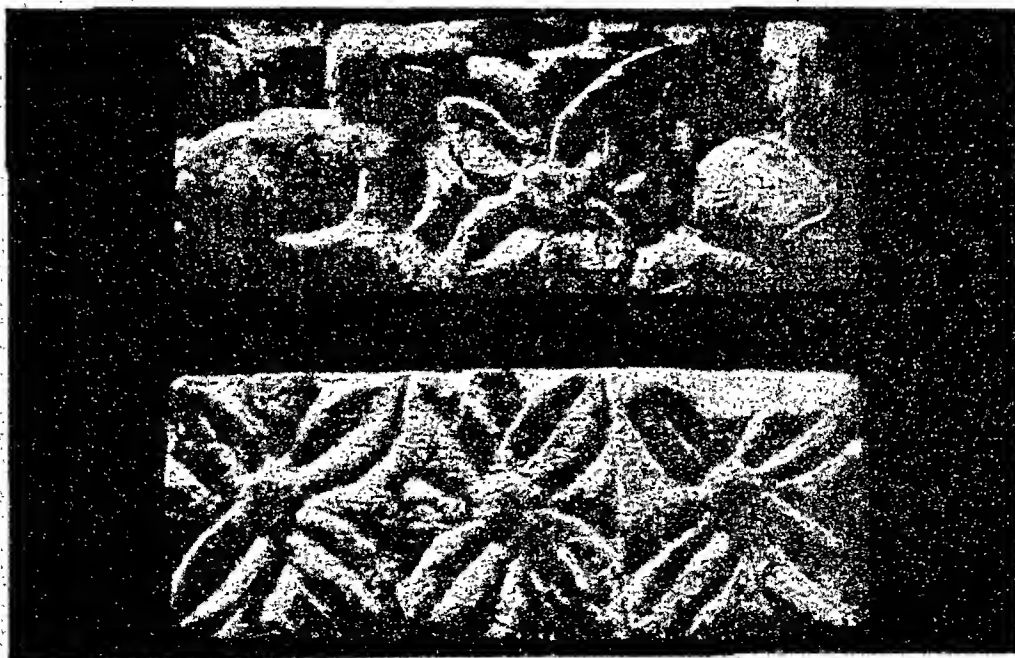
57. Seal and impression ivory, Dharnikota c. 2nd-3rd Cen A.D.
See page 86



59. Plaque showing toilet scene, ivory,
Begram, 1st-2nd Cen. A.D.
See pages 88, 92



56. Spacing bead, ivory, Sisupalgarh,
c. 1st-2nd Cen. A.D.
See page 83



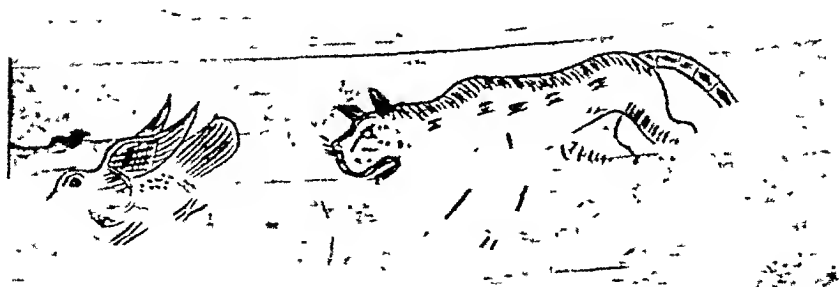


60 Plaque showing yaksha carrying
purnaghata, ivory, Begram,
c 1st-2nd Cen A D
See pages 90, 92

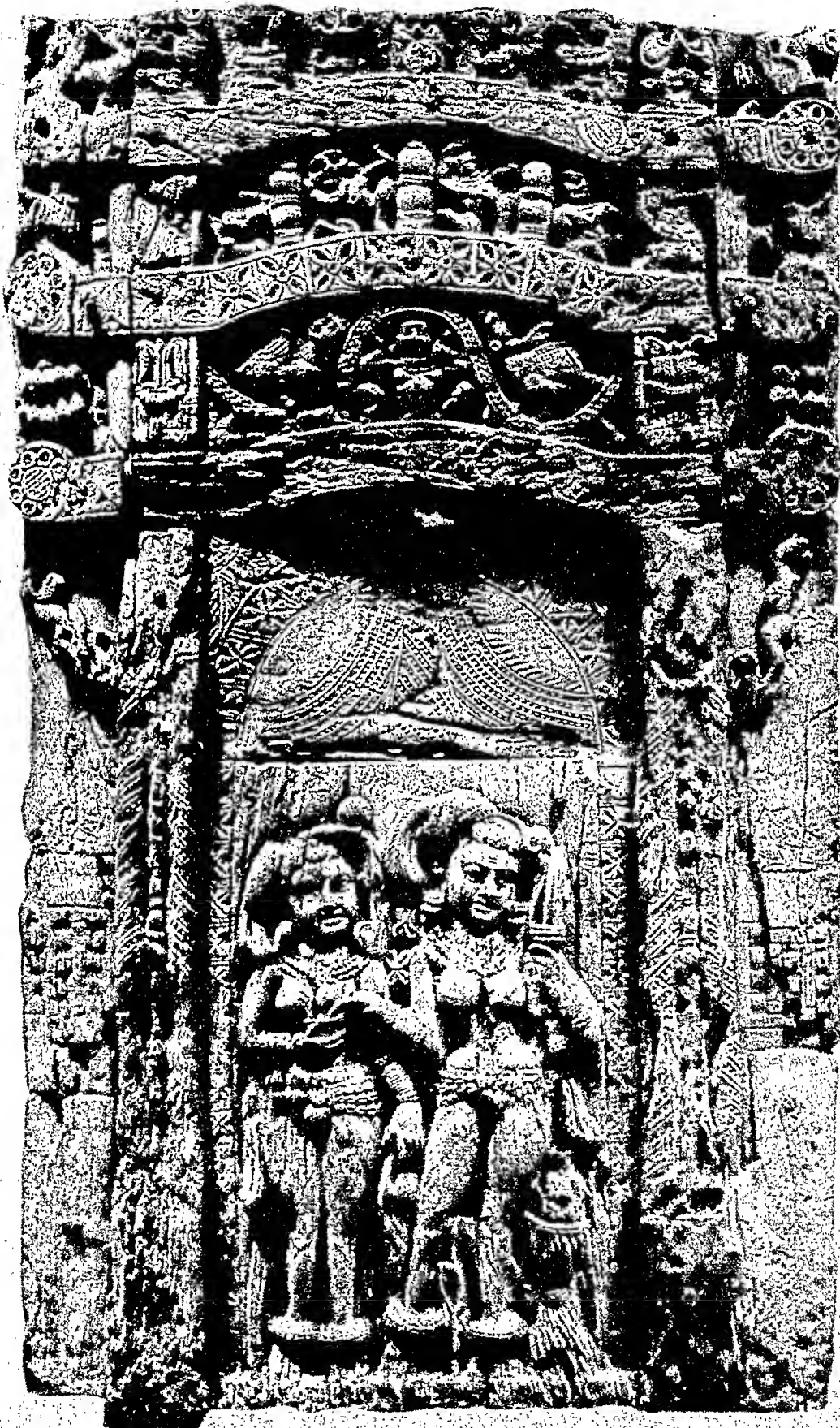


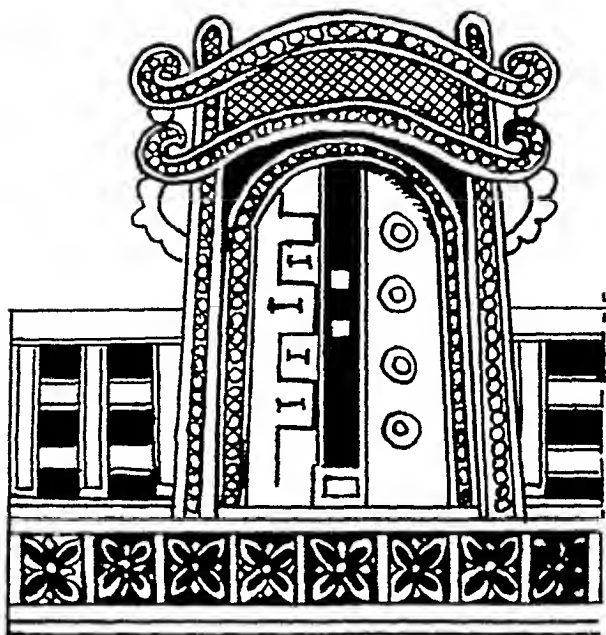
61. Plaque showing duck picking drops
of water from the lady's hair, ivory,
Begram, c 1st-2nd Cen A D.
See page 90

62 Panel showing a cat chasing a bird, ivory,
Begram, c 1st-2nd Cen A D.
See page 90



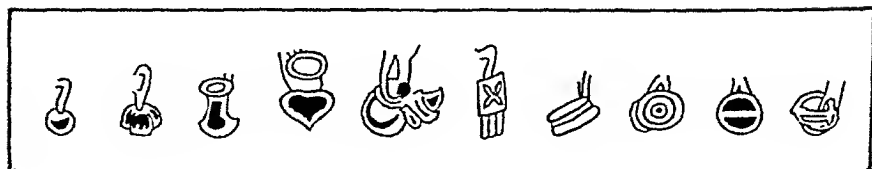
63. Plaque showing two ladies standing under a *torana*,
ivory, Begram, c. 1st-2nd Cen. A.D.
See pages 90, 92



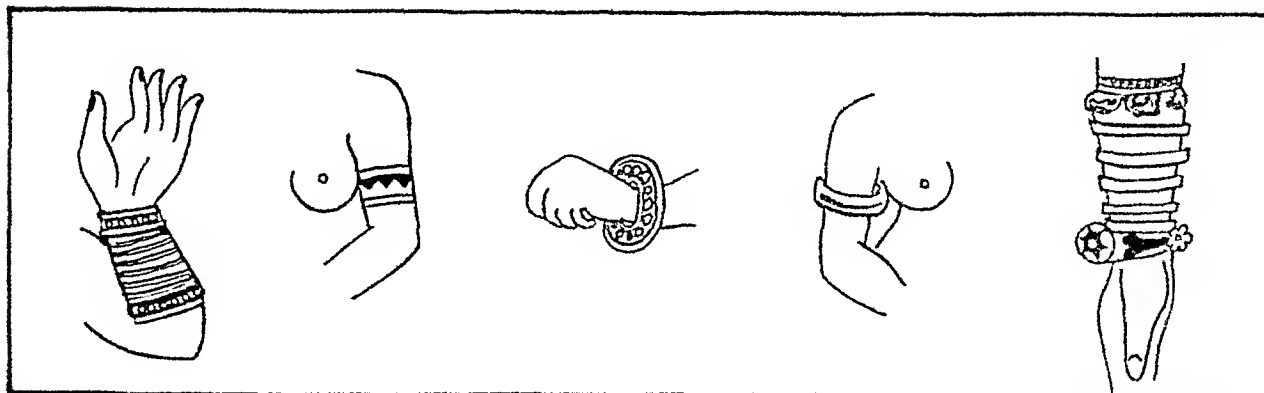


64. Door carved on an ivory panel, Begram, c. 1st-2nd Cen A.D.
See page 91

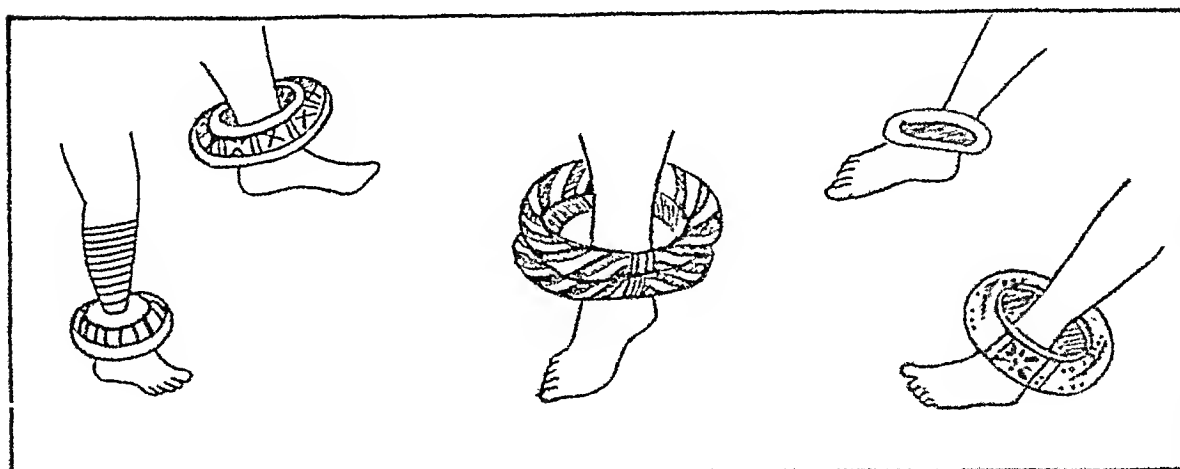
65. Ear ornaments depicted on ivories,
Begram, c. 1st-2nd Cen A.D
See page 92



66. Hand ornaments depicted on ivories,
Begram, c. 1st-2nd Cen. A.D.
See page 92



67. Foot ornaments depicted on ivories,
Begram, c. 1st-2nd Cen. A.D.
See page 92



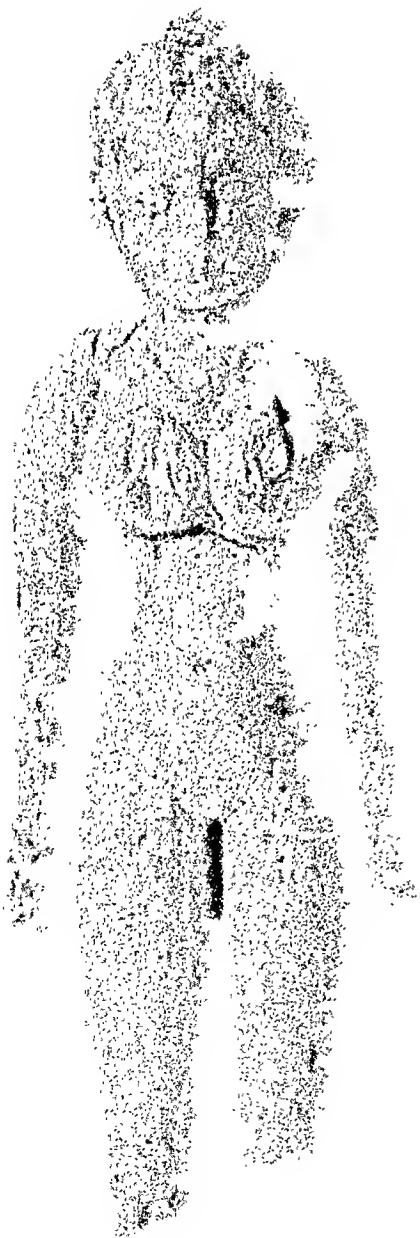


68. Lady standing on *makara*, ivory,
Begram, c. 1st. Cen A.D.
See page 92



69. Lady standing on *makara*, ivory,
Begram, c. 1st. Cen. A.D.
See page 92

70. Female figure, ivory, Ter, Gupta,
5th Cen. A.D.
See page 99



71. Monkey, ivory, Central India, Gupta,
c. 5th Cen. A.D., height : 18 cms
See page 99



72. *Dampati* (found at Khotan), ivory, North West India, c 6th-7th Cen A D, height 9.4 cms
See page 100

73 Same as above, back view
See page 100



74. Buddha in meditation,
ivory, Kashmir, 8th Cen.
A.D., height : 10.2 cms
See page 101



75. Avalokiteśvara, ivory, Kashmir,
8th Cen. A.D., height : 14 cms
See page 101



76. Buddha, ivory, Kashmir, 8th Cen.A.D.,
height : 14 cms
See page 102



77. Same as above, back-view.
See page 102

85. Buddha seated in *Bhūmiśpṛśamudrā*, ivory, Kashmir,
8th Cen. A.D., height : 14.3 cms
See page 105



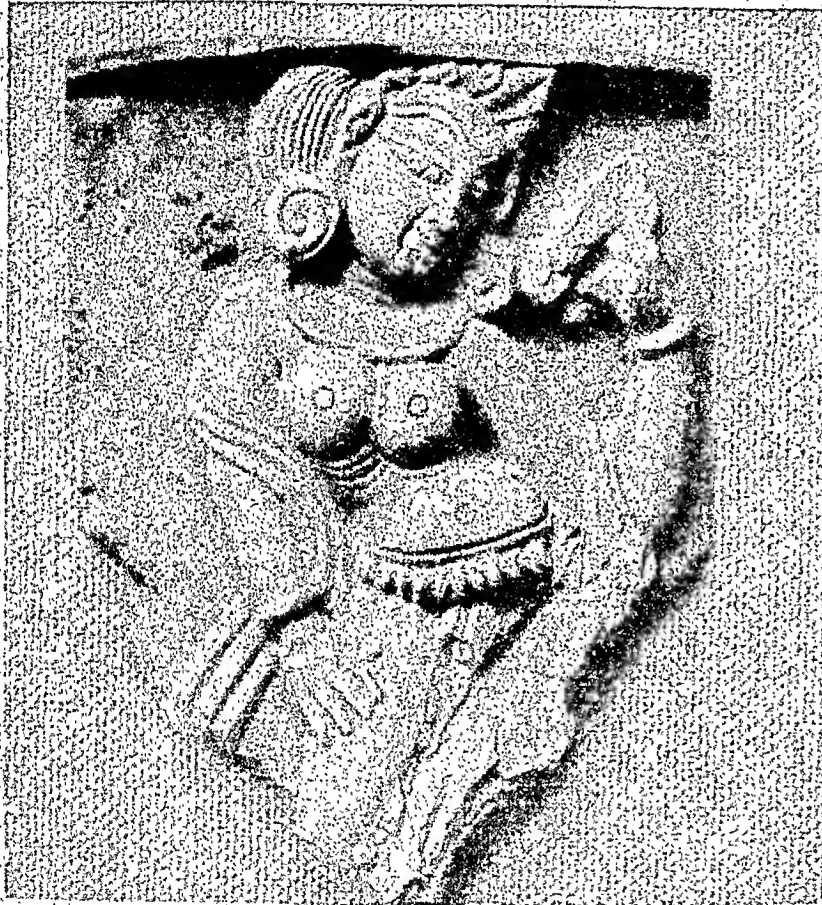
87 Chauri-bearer, ivory,
Kashmir, 8th Cen. A.D.,
height . 7.6 cms
See page 105



86 Chauri-bearer, ivory,
Kashmir, 8th Cen. A.D.,
height . 7.6 cms
See page 105

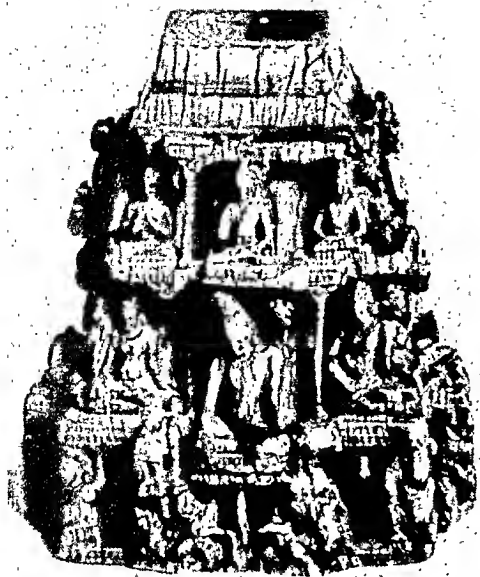


89. Lady looking into mirror (found at
Brahmanabad), ivory, Central India.
10th Cen. A.D.
See pages 109, 110



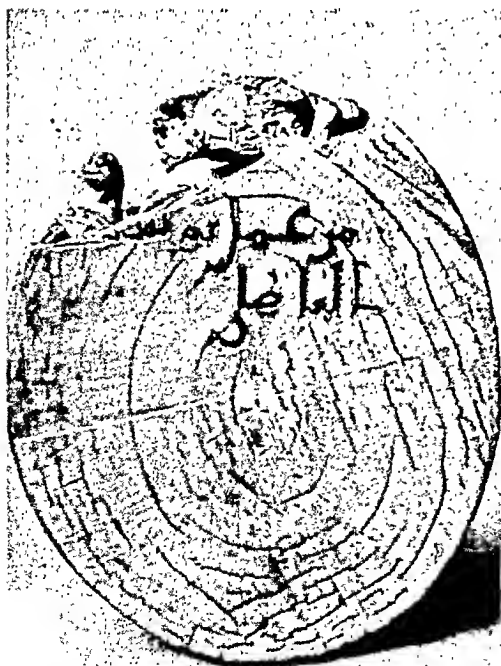
88. Lady standing holding a flower,
(found at Brahmanabad), ivory.
Central India, 10th Cen. A.D.
See pages 109, 110





90. Miniature stupa, ivory, Eastern India,
10th Cen. A.D., height : 11.5 cms
See pages 110, 111

91. King riding an elephant, ivory, Deccan,
9th Cen. A.D.
See pages 111, 112



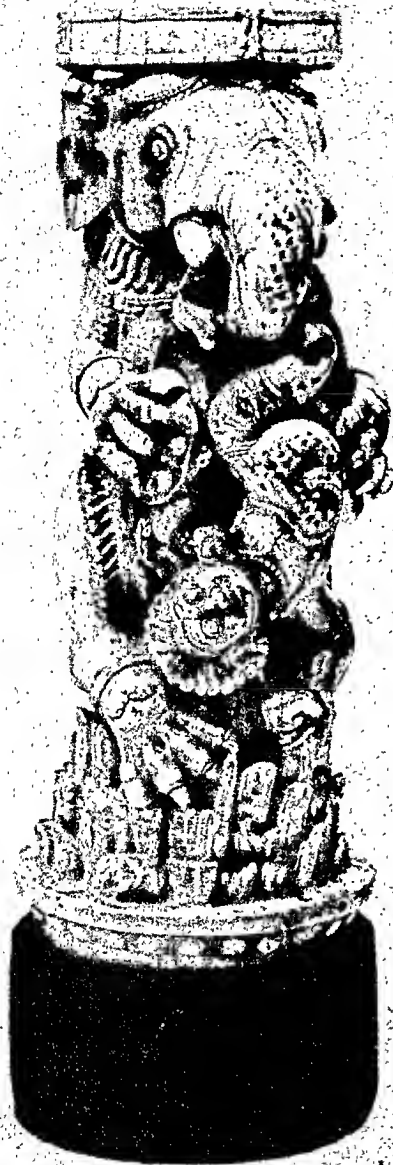
92. Arabic inscription on the
bottom of above.
See pages 111, 112

93. Throne-leg showing *gajasimha* motif,
ivory, Orissa, c. 1200 A.D.,
height : 35 cms
See page 113



94. Same as above, another view.
See page 113

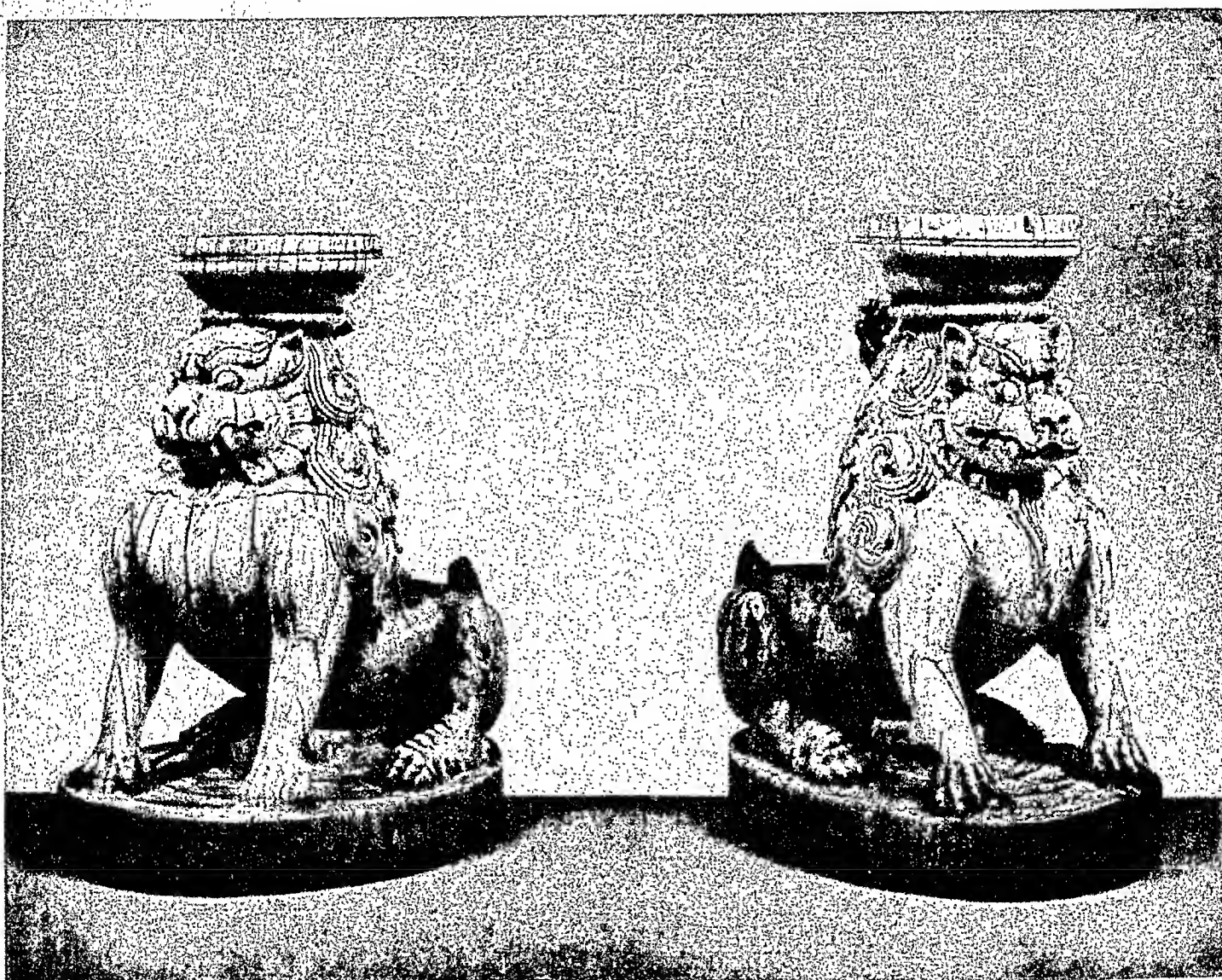




95. Throne-leg showing *gajastimha* motif, ivory, Orissa, c. 1200 A.D., height : 35 cms
See pages 113, 114

96. Same as above, another view.
See pages 113, 114





97. Lion-shaped throne supports, ivory, Eastern India,
12th Cen. A.D.
See page 114.



98 Female deity, ivory, Eastern
India, 12th Cen A.D.
See page 115



99. Same as above, back view
See page 115